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December 21, 2021

Mr. Vincent Maiden, P.G.
Brownfields Program Coordinator
Virginia Department of Environmental Quality
Office of Remediation Programs
1111 East Main Street, Suite 1400
Richmond, VA 23218

RE: Phase II Environmental Site Assessment
Former Lynchburg Foundry Warehouse Site
1800 Garnet Street, Lynchburg, Virginia
Draper Aden Associates Project No. 2109460

Dear Mr. Maiden:

Draper Aden Associates (DAA) completed a Phase II Environmental Site Assessment (ESA) conducted at the former Lynchburg Foundry Warehouse Site - a.k.a., Garnet Warehouse (subject property) located at 1800 Garnet Street in the City of Lynchburg, Virginia (**Figure 1**). The subject property encompassed approximately 0.29 acres of land with a vacant 35,440-square foot four-story (including basement) former warehouse building (**Figures 2 and 3**). The Economic Development Authority (EDA) of Lynchburg, Virginia, purchased the subject property in 2009. The EDA requested that DAA conduct this Phase II ESA to facilitate subject property redevelopment as part of the EDA's economic revitalization initiative.

DAA conducted this Phase II ESA on behalf of the EDA under a FY 2020 Virginia Brownfields Restoration and Economic Redevelopment Assistance Fund (VBAF) assessment grant received by the EDA. A structural survey was associated with VBAF grant efforts and submitted under separate cover.

The following report presents a summary of Phase II ESA activities and findings. **Attachment 1** presents figures illustrating the subject property and activities completed under this Phase II ESA. **Attachment 2** presents the results of the geophysical study. **Attachment 3** presents data tables summarizing laboratory analytical data. **Attachment 4** includes field documentation and other sample collection documentation. **Attachment 5** presents the laboratory certificates documenting accreditation under the Virginia Environmental Laboratory Accreditation Program (VELAP) and chain of custody for each laboratory. **Attachment 6** presents the laboratory

certificates of analysis. A Phase I ESA was previously completed by DAA, dated April 16, 2020 and was previously provided to DEQ. Throughout this Phase II ESA report, "current" is used to reference site conditions as of the date of the field work.

Significant Findings

The subject property includes an approximate 35,440 square foot former mixed-use office, warehouse, and bath building which covers approximately 0.15 acres of the site (approximately half of the total parcel area of 0.288 acres). The former warehouse building was historically a part of the Lynchburg Foundry and historical Sanborn Maps illustrate the location of former buildings and some site uses within the property that were considered as part of this assessment. Two rail lines border the property to the northeast and southwest, respectively.

The activities described herein were completed in accordance with a site-specific Sampling and Analysis Plan (SAP) using current budgeted resources allocated for this effort. In accordance with the project objectives and the SAP, soil and vapor conditions were assessed through representative sampling and analysis. Phase II sampling occurred throughout the site to address the RECs identified in the Phase I ESA dated April 16, 2020.

Detections in soil include volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. Soil detections were compared to risk-based USEPA Regional Screening Levels (RSLs) for both residential and commercial/industrial properties. Vapor samples were analyzed for VOCs only and compared to both residential and industrial VRP-based risk screening levels for shallow/sub-slab samples. A summary of significant findings from this Phase II ESA is outlined below:

- A few detections of semivolatile organic compounds (SVOCs) were observed in subsurface soil samples at the site at concentrations greater than residential and industrial/commercial risk-based screening levels. Because of the small size of the site and the presence of the building, except for specific situations such as utility line improvements where trenching may be needed, it is unlikely that these SVOCs will be encountered during site redevelopment.
- Only two volatile organic compounds (VOCs) were detected in soil samples at low level concentrations that are less than the risk-based screening levels. VOCs were detected in vapor samples collected but were less than VRP-based screening levels. Based on the data collected, a vapor intrusion condition into the building is not considered likely.
- Metals concentrations in surface soil identified concentrations of iron, lead, and manganese above RSLs in the southeastern open field area (approximately 35 feet by 400 feet). The metals data from this assessment should be considered if disturbance or removal of soil is planned since the material may require special handling. This data should also be considered as part of redevelopment planning primarily as it relates to possible residential or recreational uses within this area of the site.

- A few detections of polychlorinated biphenyls (PCBs) were observed in surface soils but were below both industrial and residential RSLs.

This assessment does not represent an exhaustive characterization of the site and the potential for areas with higher concentrations (i.e., hot spots) cannot be eliminated. Results from this assessment should be considered and incorporated into future site planning and development. The following report presents in further detail, activities completed, an evaluation of information and data obtained and provides findings and conclusions resulting from this effort.

1.0 STATEMENT OF OBJECTIVES

The objectives of this Phase II ESA were to evaluate soil and vapor conditions at the subject property with respect to recognized environmental conditions (RECs) identified during the Phase I ESA completed in 2020. DAA conducted this Phase II ESA in accordance with ASTM 1903-19 *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* following DAA's and general industry standard operating procedures (SOPs) and under a site-specific health and safety (SSHS) plan. The design of the project scope was prepared using current budgeted resources allocated for this effort and anticipated project timeframe.

This assessment is not intended to be a full characterization of site conditions. Detections of constituents of concern (COCs) will be used to formulate recommendations for additional assessment or mitigation, if warranted. The following summarizes the scope and results of the Phase II ESA.

RECs defined in the Phase I ESA and evaluated as part of this Phase II ESA include the following:

(Subject Property)

- Known petroleum and chemical use on and near the subject property.
- The presence and nature of releases on adjacent properties and vicinity properties support that a Vapor Encroachment Condition (VEC) likely exists for the subject property.

(Adjacent and Vicinity Properties)

- Petroleum seepage on CSX property adjacent to, and northeast of, the subject property. Possible sources of the petroleum include the former above ground storage tanks (ASTs) located on the southwest end of the warehouse building (subject property), and a pipe that may have connected the ASTs at the warehouse building to the foundry operations to the north.
- Long term activity from the adjacent railroads that may have resulted in contaminants migrating onto the subject property.

2.0 SITE INFORMATION/BACKGROUND

2.1 Site Location and Use

The subject property and vicinity characteristics are presented on **Figures 2 and 3**. The approximately 0.29-acre, irregularly-shaped parcel is covered primarily by a building with a narrow, cleared area on the southeastern portion of the property. The shape of the property is a thin strip of land running from northwest to southeast and whose northern and southern borders are the longest portions of the property. The subject property is bordered by CSX railroad tracks along the northern boundary and Norfolk Southern railroad tracks along the southern boundary. Property development in the vicinity of the subject property is a mix of industrial, residential, and railroad properties. Topographically, the subject property slopes northeast, and its western edge is the highest elevation. Garnet Street is north of the subject property. The southern wall of the building also serves as a retaining feature for the Norfolk Southern railroad track adjacent to the subject property.

The subject property was vacant, although materials associated with prior office use and debris were present on site. Evidence of prior use was observed based on interior renovations (i.e., office spaces, labelled shelving). Two elevator shafts were present: one appeared to be hydraulic and associated with prior warehousing operations; the second appeared to be a retrofit for later commercial/office activities at the subject property and was likely electric. Some vandalism and potential unauthorized temporary residence were also observed. Limited access to the open field area to the southeast was available via a thin stretch of property abutting the building.

2.2 Site History

The building was constructed around 1919 with some interior and exterior modifications and expansions over time. The building was formerly used by the Lynchburg Foundry and was identified primarily as a warehouse, office space, and bath house under its foundry use and other commercial/office and warehousing activities during post-foundry operation. Former buildings were identified in the historical record in the southeastern open area of the subject property labelled as boiler room and bath house.

The subject property is listed on the state registry of historic places (Department of Historic Resources (DHR ID 118-5181)) and is identified as eligible for listing on the National Register of Historic Place (NRHP), though it has not formally been listed. It is also located within a historic district identified as DHR118-5507.

2.3 Adjoining/Vicinity Property History

Railroad lines bound the property on both the east and west sides. Residential properties and an electrical substation are located further to the east. Also to the east is property formerly used

as part of foundry operations. Active industrial operations exist along Concord Turnpike (Westrock paper mill).

2.4 **Future Site Use**

The subject property is currently vacant and re-development options are being explored but may include residential and/or commercial/industrial development. The building is not anticipated to be removed during site redevelopment as a portion of the building serves as structural support for the railroad line to the west.

2.5 **Prior Assessments**

A Phase I ESA was completed in April2020 (**Attachment 6**). The Phase I ESA included file review of available regulatory files for the subject property and vicinity. A site characterization and initial abatement report were completed in 2010 in response to a petroleum release identified on adjacent property to the northeast near the railroad tracks. Petroleum storage associated with the subject property's prior use was identified as a potential source for the documented release. Additional details regarding this release were presented in the Phase I ESA.

2.6 **Physical Site Characteristics and Potential Receptors**

The April 2020 Phase I ESA Report provides information regarding physical site characteristics at the subject property and potential receptors. the building is considered a risk receptor, with respect to vapor intrusion, based on current site development and an understanding of potential sources of impact. The nearest surface water feature is the James River that is located approximately 500 feet to the east. Surface flows are not anticipated to reach the James River.

3.0 PROJECT SCOPE

The purpose of the Phase II ESA was to obtain and evaluate environmental data deemed representative of conditions at the subject property relative to the identified RECs. The initial sampling plan included soil sampling and interior sub-slab and exterior near-slab soil vapor sampling. Groundwater and indoor air sampling were excluded based on the results of this Phase II ESA. A drilling subcontractor was utilized for soil boring advancement and to set up the vapor monitoring points. Indoor sub-slab vapor samples could not be collected based on conditions encountered on the subject property. Samples were analyzed by a laboratory accredited under the Virginia Environmental Laboratory Accreditation Program (VELAP) for the associated matrix, method and analyte.

4.0 SUMMARY OF SITE CONCEPTUAL MODEL AND RATIONALE

This assessment focuses on the RECs based on likely or known releases from former use of the subject property and adjacent properties as part of foundry operations, including prior petroleum storage at the building as well as sources from railroad operations. Soil and vapor were identified as the primary media of concern.

Based on the size of the subject property, potential impacts from historical operations were anticipated throughout; however, sample locations were selected based on likely areas of highest concentrations (i.e., likely areas of former releases) or locations of likely migration. Soil and vapor sampling locations (Figure 4) were strategically located within areas of concern (near buildings and areas of former releases).

Based on the nature and types of historic activities at the subject property and vicinity sites, the USEPA Target Analyte List (TAL), which includes a suite of volatile organic compounds (VOCs), semi-volatile organic compounds including polycyclic aromatic hydrocarbons (SVOCs/PAHs), inorganic parameters, and polychlorinated biphenyls (PCBs) was chosen for soil. These analyses provide a comprehensive evaluation for potential impact from historical on and off site uses and are considered the constituents of concern (COCs) for the subject property. Target analytes for vapor include VOCs only. The rationale for these locations is presented in Table 1 in the following section.

5.0 FIELD INVESTIGATION AND SAMPLING ACTIVITIES

DAA conducted the Phase II ESA field investigation in general accordance with DAA's SOPs listed below and included in **Attachment 4**.

SOP No.	Description
100	Field Documentation and Record Keeping
200	Field Decontamination
300	Investigation Derived Waste
400	Soils Investigation and Sampling Procedures
700	Soil Gas and Sub-Slab Vapor Sampling
710	Collecting Air/Vapor/Gas Samples with Summa Canister
800	Field Equipment Use and Maintenance
900	Utility Clearance

Additional field documentation and the site-specific health and safety documentation is included in **Attachment 4**.

In April and May 2021, DAA conducted field investigation activities which included the following:

- A geophysical survey of accessible, exterior portions of the subject property. Information from the geophysical survey was used to support Phase II soil sampling.
- Advance soil borings on the exterior of the buildings using direct-push soils logging and soil sample collection.
- Install near-slab soil gas vapor sampling. Vapor sample ports were set up as close to the building foundation as practical.
- Attempt to collect a sub-slab sample, but water was encountered below the slab and the concrete core location was abandoned.

In November 2021, DAA returned to the site to collect additional surface soil data in support of this assessment's objectives.

5.1 **Geophysical Survey**

A geophysical survey was conducted in the open area to the southeast of the building and along the western building wall. The objective of the study was to determine if any underground storage tanks (USTs) or buried lines were present and define soil sample locations based on the survey. The accessible study area (southern field) measured approximately 35 feet wide by 400 feet long and located between the railroad right of way to the northeast and the steep, heavily vegetated slope southwest of the subject property. The study was conducted using time-domain electromagnetics (TDEM, also called EM-61). A copy of the geophysical study report is included in **Attachment 2.**

The results from the EM-61 data analysis revealed five anomalies in the subsurface in the southeastern open area. No clear indication of buried lines was identified. The largest and most notable anomalies were identified in the report as numbers 4 and 5. The remaining anomalies were attributed to nearby storm grates. Soil boring B06 was sited near anomalies 4 and 5 and no metallic objects were encountered. The size and response from the remaining anomalies do not appear to be USTs but may be remnant buried metallic material from prior operation, from demolition, or from site clearing.

5.2 **Soil Sample Collection Activities**

Grab soil samples were collected from thirteen (13) locations (B01 through B11) and VS-1, and VS-2 ere exterior near slab soil samples were also collected). VS-1 and VS-2 soil samples were added based on field observations and the desire to correlate data with respective V-1 and VS-2 vapor samples. Sampling locations were chosen based on site characteristics, prior building usage, and former building locations as identified in the Phase I ESA and illustrated on **Figure 4** (Sanborn Map overlay). Sample locations were modified based on the findings of the geophysical evaluation and subject property accessibility. **Figure 4** illustrates the location of soil borings, surface soil sample and vapor sampling points.

Attempts were made to avoid railroad property. Surface samples B05 and B08 are illustrated outside the subject property boundary on Figure 4. However, these samples were collected as close to and within the property boundary based on field observations are believed to be within the project boundary. Data from these locations is considered representative of on-site conditions.

Sample depths were chosen based on field observations (visual and olfactory), consideration of potential sources in the vicinity (i.e., railroad, foundry operations, former petroleum storage) and photoionization detector (PID) readings (field screening). The PID was used to screen soil cores for the presence of VOCs. In general sample collection depths corresponded to the highest PID measurement observed in the boring. PID measurements were documented on boring logs. Sample depth, rationale, and laboratory analyses for each soil sample are noted in Table 1.

Table 1: Soil Sample IDs, Depths, Rationale, and Analysis

Sample ID	Sample Interval	Rationale	VOCs	SVOCs/ PAHs	TM	PCBs
B01	14-15′	Borings placed along Garnet Street entrance to evaluate potential impacts near loading dock.	●	●	●	●
B02	2.5′		●	●	●	●
B03	7-8′	Boring placed along north wall to evaluate potential railroad impacts and residual impacts from prior foundry operations.	●	●	●	●
B04	4-5′		●	●	●	●
B05	Surface/0-<6″	Surface sample near railroad.		●	●	●
B06-1	Surface/0-<6″″	Southern strip to evaluate potential impact from former on-site buildings (e.g., including former boiler room and near geophysical anomaly)	●	●	●	●
B06-2	2.5′-3.5′		●	●	●	●
B07	2.5′	Southern strip to evaluate potential impact from former on-site buildings	●	●	●	●
B08	Surface/0-6″	Boring placed to south of building to evaluate surface conditions near railroad.		●	●	●
B09	Surface/0-6″	Depositional impacts from industrial, petroleum, and railroad operations that might be disturbed during redevelopment.		●	●	●
B10	Surface/0-6″			●	●	●
B11	Surface/0-6″				●	
VS-1	5′	Outside location to assess Former petroleum and other chemical use/storage/spills likely in or near building, near interior elevator shaft and to compare with vapor sample.	●			
VS-2	5′	Outside location, Opposite former petroleum storage for potential spills or releases passing beneath the building and to compare with vapor sample.	●			

5.3 **Near-slab Vapor Sampling**

DAA performed near-slab vapor sampling at two exterior locations, VS-1 and VS-2, as shown in **Figure 4**. DAA installed the vapor probes as close to the building foundation as practical. DAA drilled two-inch diameter boreholes, using the Geoprobe, in which the vapor probes were installed. Six-inch stainless-steel mesh screens attached to ¼-inch diameter Teflon tubing secured with stainless steel Swagelok pressure fittings were installed. The tubing was connected to a batch certified three-liter summa canister equipped with a 200 ml/minute (60-minute) flow controller. DAA performed a shut-in test and a helium leak detection test at each location. Personnel performed the helium test using an air-tight helium shroud, ultra-high-grade helium, and an electronic helium detector.

After leak detection testing, vapor samples were collected by opening the flow controller valve. The gauges on the flow controllers were monitored to prevent total filling of the canisters, with a target final vacuum of -2 to -5 inches of mercury. After collection, DAA shipped the samples under standard chain-of-custody protocol to ConTest for VOC analysis by EPA Method TO-15. The vapor sampling record is provided in **Attachment 5** along with the laboratory data andCOC. DAA collected a field duplicate sample (Dup) at location VS-1 using a Swagelok "T" fitting and collected samples simultaneously. DAA removed all screens from the borehole and patched each hole with bentonite after sampling.

To assess the off-site petroleum source, two vapor sampling locations were planned, VS-2 (exterior near slab) and VS-3 (interior sub-slab). However, after drilling a one-inch hole through the slab floor water was encountered and the boring for VS-3 was abandoned and no vapor sample collected. VS-2 was located as close as practical to the proposed VS-3 interior sub-slab location. Additionally, VS-4, an interior sub-slab vapor sample was planned. However, upon consideration of site conditions and the inability to determine the representativeness of the proposed sample, VS-4 was not completed.

5.4 **Investigation-Derived Waste**

Investigation-derived waste (IDW) was limited to one 55-gallon drum that contained PPE and sampling materials that had come in contact with soil during sampling. IDW pick-up is pending. Soil removed from boreholes was placed back into the holes from which they were derived and no IDW was generated.

6.0 LABORATORY ANALYSIS

Samples were submitted by overnight courier to the following laboratories for specified chemical analyses:

- Pace Analytical Services, LLC, West Columbia, South Carolina

    - Soil – VOCs, SVOCs, PCBs, Metals
- Eurofins Lancaster Laboratories, Lancaster, Pennsylvania
    - Soil – VOCs, PCBs, Metals
- Con-Test Analytical Laboratory, East Longmeadow, Massachusetts
    - Vapor – VOCs (TO-15)

Laboratories are accredited under the Virginia Environmental Laboratory Accreditation Program (VELAP) for the methods, analytes and matrixes specified for this project. Copies of the laboratory certificates of analysis and chain-of-custody records are included in **Attachment 5** with the laboratory reports.

Comprehensive tables presenting all laboratory analytical results for soil and vapor are included in **Attachment 3**. Laboratory data qualification flags presented in laboratory certificates of analysis are presented on the tables. A laboratory "J" flag indicates results were reported less than the laboratory quantitation limit (estimated value). No data were rejected.

6.1 **Soil Analytical Results**

Soil samples collected and analyzed ranged in depth from the surface to fifteen feet below ground surface. **Table 2-1- Attachment 3** presents a summary of the analytical results for all analyses in soil samples. **Table 2-2, Attachment 3** presented a summary of detections in soil samples. Soil analytical results were compared to USEPA Industrial and Residential Risk Based Screening Levels (RSLs) applicable at the time of this report to evaluate potential risk to human health from exposure to subject property soils. Data greater than RSLs are shaded on the summary tables. Findings are summarized below:

- Inorganic parameters were detected in all soil samples. Of those, arsenic was detected in all soil samples at concentrations greater than the residential RSL in locations across the subject property. Cobalt was also detected in B02-1 and B05-1 and iron in B02-1 at concentrations greater than the residential RSL. Though observed arsenic concentrations may be the result of some naturally occurring regional concentrations we cannot rule out the possibility of some anthropogenic (i.e., man made) contribution from prior subject property use and industrial activities and off-site sources.

- Additional surface soil samples (B09, B10, and B11) were collected to evaluate soil most likely to be disturbed during site redevelopment. Elevated iron concentrations were observed in B09 and B11. High lead and manganese were also observed in B09. Based on the potential sources including two active rail lines and former industrial use of the site and vicinity, sample concentrations are considered representative of the southeastern open area and may extend beyond the sample locations collected.

- No VOCs were detected at concentrations greater than RSLs. Acetone and 2-butanone were the only VOCs detected in samples analyzed for VOCs.

- Low level SVOCs, including PAHs, were detected in soil samples throughout the property. Potential sources for SVOCs include particulate deposition and migration from railroad activity and incomplete coal combustion from prior operations as part of the nearby foundry. Detections reported as greater than RSLs are outlined below:
    - Benzo(a)pyrene was observed at concentrations greater than the residential RSL in the surface sample from B05 and subsurface samples from B03, B04, B07, B09, and B10.
    - Benzo(a)pyrene was detected at a concentration greater than both the industrial and residential RSL in the surface soil sample from B08. Benzo(a)anthracene and benzo(b)fluoranthene were also observed at concentrations greater than both RSLs at that location and benzo(k)fluoranthene and ideno(1,2,3-cd)pyrene were detected greater than their residential RSL.
    - In B09, benzo(b)fluoranthene was observed at a concentration greater than the residential RSL.
    - One low-level PCB (Aroclor-1260) was observed in the surface samples from B08, B9, and B10 but below the residential and industrial RSL.

6.2 **Vapor Sample Results**

Vapor probes VS-1 and VS-2 were installed in 2-inch diameter boreholes at a 1-foot depth interval (**Table 3- Attachment 3**) . Nine VOCs were detected across two exterior near-slab vapor samples. The sample results were compared to VDEQ VRP Tier III Industrial and Residential Shallow and Sub-slab soil gas Screening Levels. All detections were below the screening levels. Soil data collected from the VS-1 and VS-2 borings support that limited VOCs are present at those locations and were less than respective soil industrial and residential RSLs.

7.0 FINDINGS AND CONCLUSIONS

Based on the data collected the objectives of this assessment were met. Soil and vapor sampling was conducted near the existing building and within open areas of the site. Consideration of prior site use and adjacent and vicinity property uses was included in the development of this assessment and to define COCs for analysis. Groundwater was excluded at this time.

7.1 **Evaluation of RECs**

This Phase II ESA evaluated RECs identified during a Phase I ESA completed in 2020. The following summarizes the status of RECs based on data collected under this assessment.

- *On-site REC – Phase I ESA: Known and likely petroleum and chemical use on and near the subject property.*
    - Petroleum based impact requiring additional action was not observed in soil or vapor samples collected at the subject property.

  - SVOCs were detected in soil at concentrations consistent with long term industrial use.
  - Concentrations of iron, lead, and manganese and SVOCs were observed in surface soils within the southeastern open area of the site. Based on the potential sources including two active rail lines and former industrial use of the site and vicinity, sample concentrations are considered representative of the area southeast of the building and may extend beyond the sample locations collected (an area of approximately 35 by 400 feet). Soil if removed or disturbed during redevelopment may require additional data evaluation of risk and ultimately special handling along with health and safety considerations for site workers. Residential use is not recommended without capping or removal of this impacted surface soil.
  - Regarding the remainder of the site and the building, no further sampling is recommended.
- *On-site VEC – Phase I ESA: The presence and nature of releases on adjacent properties and vicinity properties support that a VEC likely exists for this subject property*.
  - Based on results from soil and exterior near slab vapor samples, VOCs were present in vapor samples and a VEC exists. However, minimal VOCs were detected in soil that were well below their respective RSLs and VOCs in the vapor samples were below the VRP screening levels. Based on the concentrations observed, coupled with the data collected from soil, vapor migration into the building is not likely and no further sampling is recommended at this time.
  - Perched water was encountered beneath the slab and sub-slab soil or vapor samples were not collected. No evidence of petroleum was observed in the water encountered.

(Adjacent and Vicinity Properties)

- *Off-site REC – Phase I ESA: Petroleum seepage on CSX property adjacent to and northeast of the subject property also indicates a REC on or adjacent to the subject property. Possible sources of the petroleum include the former ASTs located on the southwest end of the warehouse building (subject property), and a pipe that may have connected the ASTs at the warehouse building to the foundry operations to the north.*
  - No piping was identified associated with former ASTs. Petroleum-based impact was not observed in soil or vapor samples. However, data gaps exist in areas that could not be accessed for sampling.
- *Off-site REC – Phase I ESA: Long term activity from the adjacent railroads that may have resulted in contaminants such as petroleum and heavy metals migrating onto the subject property*.
  - Based on proximity, surface impacts to soil were observed potentially include contribution from railroad operations. Based on concentrations of metals and some SVOC detections, soil if removed or disturbed during redevelopment may

require additional data evaluation of risk and ultimately special handling along with health and safety considerations for site workers.

7.2 **Data Gaps**

The following data gaps were noted:

- Interior sub-slab vapor data could not be collected due to the presence of water in the sample location. Statements regarding the presence of vapor in the subsurface were based on soil sample results and near-slab vapor data. This data gap is not considered significant based on current information.

- DAA was unable to access the area near and below the former ASTs previously located at the building and samples were not collected. Additional sample locations were chosen to identify impact on the assumed downgradient side where data could indicate if a migration of a release occurred. This data gap is not considered significant since downgradient sample locations were observed and sampled.

- An attempt to sample locations associated with prior operation (e.g., former boiler room in the open field; location of adjacent petroleum impact) was made using professional judgement. However, the information used was based on historical mapping that may have been inaccurate. This data gap is not considered significant at this time since the project area is relatively small and multiple borings were observed and sampled that provided coverage of the subject property.

- Herbicides and pesticides were excluded from this assessment due to budget constraints. However, with the proximity of active rail lines, the potential for the presence of such compounds cannot be eliminated and should be considered during ground disturbance or re-development.

- Groundwater sampling was beyond the scope of this assessment. Perched water was observed in VS-3 (not sampled) and to a lesser degree VS-2 (vapor sampling completed). No evidence of petroleum free product or notable odors was observed in the borings or water encountered. Based on current soil data, groundwater impact from on-site sources is not considered likely. This data gap is not considered significant at this time.

7.3 **Conclusions and Recommendations**

DAA performed this Phase II Environmental Site Assessment at the subject property described above in conformance with the scope and limitations of ASTM Practice E 1903-19 and for the statement of objectives described above. Soil sampling across the subject property identified low level SVOCs in soil samples at multiple depths and sporadic detections of inorganic parameters at concentrations greater than RSLs. The highest concentration of SVOCs was observed in a surface sample near the railroad. Benzo(a)pyrene was observed at concentrations

greater than the residential RSL in samples from depths ranging from the surface to 8 feet below the ground surface. SVOCs observed were consistent with long term industrial use similar to the subject property.

Based on soil data, consideration of data greater than RSLs, the current nature of the subject property, and the building remaining as part of redevelopment planning, no further sampling is recommended. Risk to human health and the environment from soil for future use of the subject property is considered minimal with the exception of elevated metals concentrations at the surface in the open southeastern portion of the site that may be present and disturbed during redevelopment. Special handling or disposal may be warranted if the surface material is disturbed. Based on the concentrations observed, residential use is not recommended without removal or capping of the surface soil in open areas of the site.

Interior sub-slab vapor data could not be collected. Statements regarding the potential presence of vapor intrusion into the building in were based on soil sample results and exterior near-slab vapor data. However, the soil and vapor detections were below risk screening levels and there does not appear to be a vapor migration condition into the building. Based on both soil and vapor data the low potential for vapor intrusion into the building and no further action is recommended.

Thank you again for the opportunity to work on this project. If we can assist you further, please do not hesitate to contact us.

Sincerely,
DRAPER ADEN ASSOCIATES

Karen Weber, P.G.
Project Manager/Senior Project Geologist

cc: Marjette Upshur, Lynchburg Economic Development Authority
Gianna Rosati, Region 3, Brownfields & Land Revitalization
Janet C. Frazier, DAA
Hollyn Busby, DAA
Srikanth Nathella, P.E., DAA

Attachment 1 Figures
Attachment 2 Geophysical Report
Attachment 3 Data Summary Tables with Comparison to Screening Levels
Attachment 4 Field Documentation and Site-Specific Health and Safety
Attachment 5 Chain-of-Custody Record, Laboratory VELAP Certification
Attachment 6 Laboratory Analytical Reports

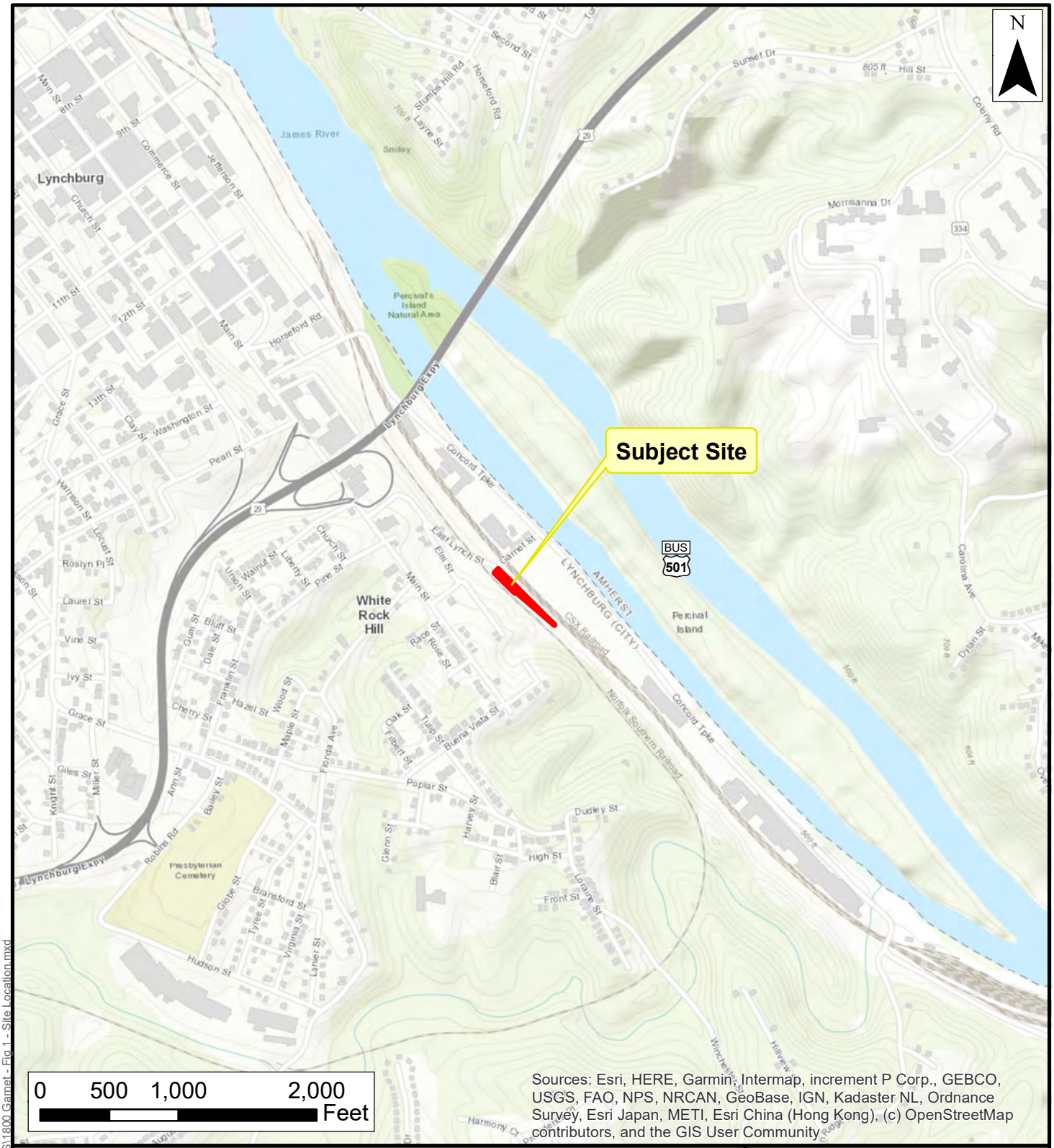
REFERENCES:

ASTM E 1903-19, *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, 2019.

DAA, 2020. *Phase I Environmental Site Assessment, Former Lynchburg Foundry Company Storage Building*, 1800 Garnet Street, Lynchburg, Virginia, April 16, 2020, DAA JN B12188B-10PI.

ATTACHMENT 1

Figures



Site Location Map

Phase I Environmental Site Assessment
1800 Garnet Street (Parcel ID 04720003)
Lynchburg, Virginia

SCALE: 1" = 1000'

PROJECT: B12188B-10HM

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services
2206 South Main Street
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540-552-0444 Fax: 540-552-0291
Richmond, VA
Charlottesville, VA
Hampton Roads, VA
Raleigh, NC
Fayetteville, NC
Northern Virginia

DESIGNED SCH
DRAWN SCH
CHECKED KMW
DATE 2/11/2020

FIGURE
1

Path: P:\B12\100\B12188\B12188B-10HM\GIS\1800 Garnet - Fig 1 - Site Location.mxd

Draper Aden Associates
Engineering • Surveying • Environmental Services

2206 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291

Richmond, VA
Charlottesville, VA
Hampton Roads, VA

Raleigh, NC
Fayetteville, NC
Northern Virginia
Virginia Beach, VA

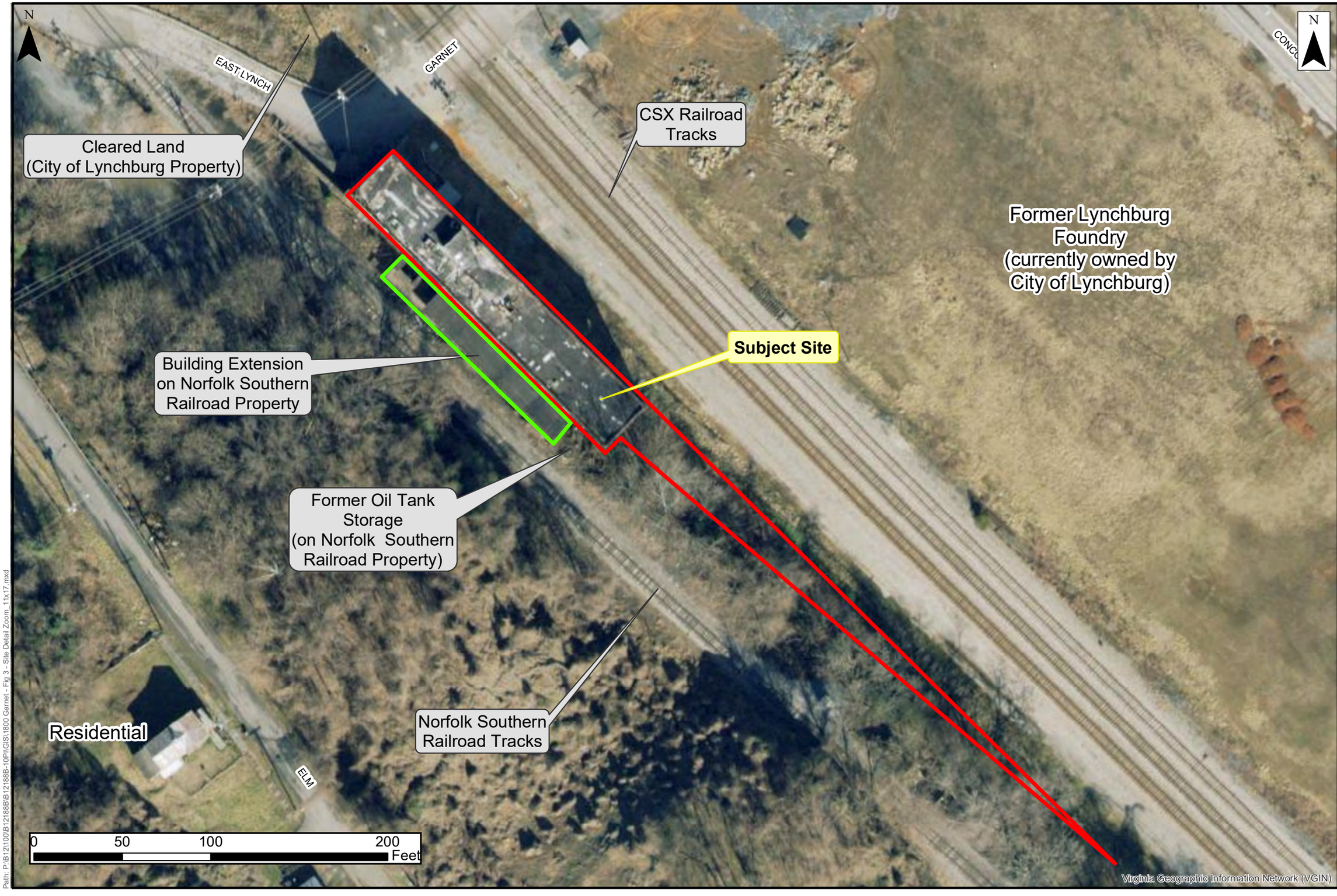
Site Vicinity Map
Phase I Environmental Site Assessment
1800 Garnet Street (Parcel ID 04720003)
Lynchburg, Virginia

DESIGNED: SCH
DRAWN: SCH
CHECKED: KMW
DATE: 2/11/2020

SCALE: 1" = 500'
PROJECT: B12188B-10HM

FIGURE
2

Path: P:\B12100\B12188\B12188B-10P\GIS\1800 Garnet - Fig 2 - Site Detail 11x17.mxd



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Raleigh, NC
Fayetteville, NC
Northern Virginia
Virginia Beach, VA

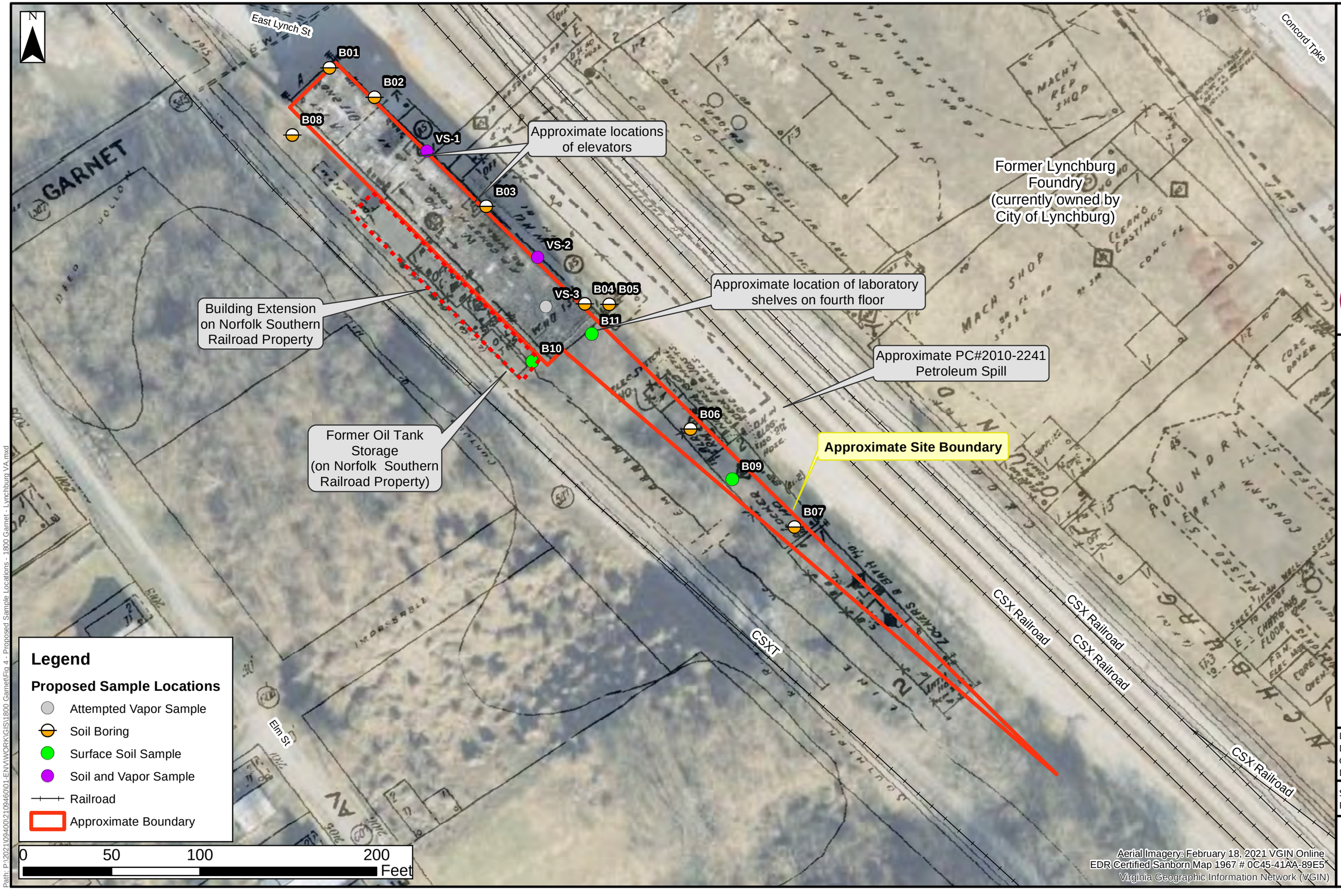
Site Detail Map
Phase I Environmental Site Assessment
1800 Garnet Street (Parcel ID 04720003)
Lynchburg, Virginia

DESIGNED: SCH
DRAWN: SCH
CHECKED: KMW
DATE: 3/16/2020

SCALE: 1" = 50'
PROJECT: B12188B-10HM

FIGURE
3

Path: P:\B12\100\B12188B\B12188B-10P\GIS\1800 Garnet - Fig 3 - Site Detail Zoom_11x17.mxd



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Boring and Sample Locations
Phase I Environmental Site Assessment
1800 Garnet Street (Parcel ID 04720003)
Lynchburg, Virginia

DESIGNED: KMW
DRAWN: HMB
CHECKED: JCF
DATE: 12/09/2021

SCALE: 1" = 50'
PROJECT: 2109460

FIGURE
4

Path: P:\2021\09400\2109460\01-ENV\WORK\GIS\1800 Garnet\Fig 4 - Proposed Sample Locations - 1800 Garnet - Lynchburg VA.mxd

ATTACHMENT 2

Geophysical Study

Geophysical Study at 1800 Garnet Street
Lynchburg, Virginia

City of Lynchburg
Economic Development Authority
900 Church Street
Lynchburg, Virginia
USEPA Brownfields Assessment Grant Number: # BF-96359401-0

September 21, 2021

DAA Project Number: 2109460

Draper Aden Associates
Engineering • Surveying • Environmental Services

Draper Aden Associates
Engineering • Surveying • Environmental Services

2206 South Main Street
Blacksburg, Virginia 24060
540.552.0444
www.daa.com

September 21, 2021

Marjette Upshur
City of Lynchburg
Economic Development Authority
900 Church Street
Lynchburg, Virginia

RE: Geophysical Study
1800 Garnet Street, Lynchburg, Virginia
Draper Aden Associates Project No. 2109460

Dear Ms. Upshur:

Draper Aden Associates has completed the geophysical study at 1800 Garnet Street in Lynchburg, Virginia. The objective of this study was to assist in determining if any underground storage tanks (USTs) or buried lines may be present beneath the study area. To meet this objective, we had proposed to utilize a combination of ground penetrating radar (GPR) and time-domain electromagnetics (TDEM, also called EM-61). However, the ground conditions at the site were not conducive to GPR data collection, and therefore only EM-61 methods were utilized.

We value our professional relationship with the City of Lynchburg and hope that you will contact us with any similar needs in the future. If you have any questions regarding this report, or if we can be of any further service to you please do not hesitate to contact us.

Sincerely,
Draper Aden Associates

Christopher M. Printz, P.G. (VA)
Senior Project Geologist II

Jeffrey T. Huffman, MS, PE, F. ASCE
Vice President / Division Manager
Geotechnical and Construction Services

TABLE OF CONTENTS

FIGURES

1.0 EXECUTIVE SUMMARY

Draper Aden Associates (DAA) was retained by the City of Lynchburg to conduct a geophysical study at 1800 Garnet Street in Lynchburg, Virginia. The objective of this study was to assist in determining if any underground storage tanks (USTs) or buried lines may be present beneath the study area, which measured approximately 35 feet wide by 400 feet long. The study area is located between a railroad right-of-way to the northeast and a steep, heavily vegetated slope to the southwest. To meet the objectives of the study, time-domain electromagnetics (TDEM, also called EM61) methods were utilized.

Based on site conditions, it was only feasible to conduct traverses with the EM61 in the long direction of the study area (northwest-southeast), due to the presence of deep, water-filled ruts extending in the long direction of the study area. These deep ruts, combined with dense, tall vegetation, made it not feasible to conduct traverses in the short direction of the study area (northeast-southwest). Additionally, the ground conditions between the building and the railroad right-of-way made it not feasible to collect EM data along the east side of the building. These prohibitive conditions included thick vegetation, muddy, water-filled deep ruts, and an abundance of large window pane fragments and metallic debris, the latter of which would have generated numerous EM anomalies in the data set.

The results from the EM61 data analysis revealed five anomalies to the east of the building which were not directly correlated to metallic objects or structures observed at the ground surface, identified Anomalies 1 through 5. The coordinates of these anomalies are provided in a table at the end of this report.

It is unknown if any of these anomalies represent USTs, but since the EM61 instrument is particularly sensitive to metallic objects or materials, the locations of these anomalies can be considered areas likely to be underlain by objects or structures containing metallic materials (or locations where metallic objects or structures were present at the ground surface but were not visible due to dense vegetation.

No clear indications of buried lines were identified within the EM61 data.

This study was conducted by registered professional geologists with extensive experience in the collection, processing, and interpretation of geophysical data. It should be noted, however, that all geophysical methods are interpretive, and additional invasive exploration would be required to verify or refute the interpretations within this report. Moreover, additional anomalies of interest may exist which were not detected by the geophysical instrument(s) or which may be located in areas not accessible to the geophysical instrument(s).

2.0 INTRODUCTION

Draper Aden Associates (DAA) was retained by the City of Lynchburg to conduct a geophysical study at 1800 Garnet Street in Lynchburg, Virginia (Figure 1). The objective of this study was to assist in determining if any underground storage tanks (USTs) or buried lines may be present beneath the study area, which measured approximately 35 feet wide by 400 feet long. The study area is located between a railroad right-of-way to the northeast and a steep, heavily vegetated slope to the southwest (see Figure 1).

To meet the objectives of the study, we had proposed to utilize a combination of ground penetrating radar (GPR) and time-domain electromagnetics (TDEM, also called EM-61). However, the ground conditions at the site were not conducive to GPR data collection, due to thick, tall vegetation and deep, water-filled ruts extending in the long direction of the study area, and therefore only EM-61 methods were utilized. Photographs depicting the site conditions are illustrated in Figure 2.

The tasks involved in this study included:

1. Collection, processing, and interpretation of EM61 data;
2. Preparation of this document to detail methods and findings.

3.0 TDEM STUDY

3.1 Principles of TDEM

TDEM utilizes a low frequency transmitter to induce electrical current into the subsurface. The induced current creates secondary electromagnetic fields which are measured by the TDEM instrument. The amplitude and phase of these secondary fields are related to the electrical properties of the subsurface material, and therefore a measurement of the secondary fields is a measure of how well the subsurface materials conduct electric current.

TDEM alternately charges and turns off the transmitter coil, with the receiver coil taking its measurement of the voltage while the transmitter is off. During the period when the transmitter is off, metal objects retain some of the charge that decays over the course of a few milliseconds. Thus, the TDEM instrument is sensitive primarily to metal objects.

3.2 TDEM Field Methods

The instrument used for this investigation was the EM61 manufactured by Geonics, LTD. The EM61 data were collected in semi-grid fashion on April 20, 2021, with the distribution of the EM61 data tracked by Trimble Pro 6H global positioning system (GPS) capable of sub-foot

accuracy. Figure 3 depicts the distribution of the EM61 traverses, which were predominantly in the long direction of the study area (northwest-southeast). The orientation of the traverses was largely dictated by the presence of deep, water-filled ruts extending in the long direction of the study area. These deep ruts, combined with dense, tall vegetation, made it not feasible to conduct traverses in the short direction of the study area (northeast-southwest). Additionally, the ground conditions between the building and the railroad right-of-way made it not feasible to collect EM data along the east side of the building. These prohibitive conditions included thick vegetation, muddy, water-filled deep ruts, and an abundance of large window pane fragments and metallic debris, the latter of which would have generated numerous EM anomalies in the data set.

3.3 EM61 Results

The contoured EM61 results are depicted in Figure 4. Since the EM61 instrument is particularly sensitive to metallic objects or materials, areas of elevated EM response can be considered likely to be underlain by objects or structures containing metallic materials. However, metallic objects at the surface can similarly impart an elevated EM response, causing artifacts in the data. The locations of metallic objects that were observed at the ground surface during data collection were recorded with the connected GPR instrument. Substantial EM anomalies were generated by a series of manholes, metal grates, and bollards, the locations of which are depicted in Figure 4.

Five EM anomalies were identified in the data which were not directly correlated to metallic objects or structures observed at the ground surface, identified in Figure 4 as Anomalies 1 through 5. Anomalies 1 and 2 are located approximately nine (9) feet and 23 feet northeast of the southeast corner of the building, respectively.

Anomaly 3 is located approximately 75 feet east of the building and approximately 10 feet south of an observed metal grate. Due to the overlying tree canopy which may have degraded the quality of the GPS positioning of the EM data, it is possible that Anomaly 3 is the EM response to the nearby storm grate. However, it is also possible that Anomaly 3 is the result of another metallic object or structure, either in the subsurface or at the ground surface but not visible due to the dense vegetation.

Anomalies 4 and 5 are located approximately 100 feet east of the building and are located within approximately nine (9) feet of one another. The EM contours identified as Anomalies 4 and 5 are represented by positive high-amplitude EM responses (approximately 2,600 to 6,300 mV), but the zone in between Anomalies 4 and 5 is represented by a negative high-amplitude EM response (approximately -950 mV), also a substantially anomalous EM response. Therefore, it is possible that Anomalies 4 and 5 and zone in between them represent a singular metallic object or structure, either in the subsurface or at the ground surface but not visible due to the dense vegetation.

4.0 CONCLUSIONS

The results from the EM61 data analysis revealed five anomalies to the east of the building which were not directly correlated to metallic objects or structures observed at the ground surface, identified Anomalies 1 through 5. The locations of Anomalies 1 through 5 are depicted on Google Earth aerial imagery in Figure 5. The coordinates of Anomalies 1 through 5 are provided in the table in Figures 4 and 5, in the following coordinate system: UTM zone 17, WGS84 datum, meters.

It is unknown if any of these anomalies represent USTs, but since the EM61 instrument is particularly sensitive to metallic objects or materials, the locations of these anomalies can be considered areas likely to be underlain by objects or structures containing metallic materials, or locations where metallic objects or structures were present at the ground surface but were not visible due to dense vegetation.

No clear indications of buried lines were identified within the EM61 data.

5.0 LIMITATIONS

This study was conducted by registered professional geologists with extensive experience in the collection, processing, and interpretation of geophysical data. It should be noted, however, that all geophysical methods are interpretive, and additional invasive exploration would be required to verify or refute the interpretations within this report. Moreover, additional anomalies of interest may exist which were not detected by the geophysical instrument(s) or which may be located in areas not accessible to the geophysical instrument(s).

6.0 FIGURES

Site Location Map

Geophysical Study
1800 Garnet Street, Lynchburg, Virginia

Draper Aden Associates
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2206 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291
Richmond, VA
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Hampton Roads, VA
Raleigh, NC
Fayetteville, NC
Northern Virginia
Virginia Beach, VA

DESIGNED: NA
DRAWN: CMP
CHECKED: FDP
DATE: 4/28/2021

PROJECT:
2109460

FIGURE
1

Looking Northwest

Looking Southeast

Looking Southeast

Looking South

Looking Northwest

Draper Aden Associates

Engineering ♦ Surveying ♦ Environmental Services

2206 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291

Richmond, VA
Charlottesville, VA
Hampton Roads, VA

Raleigh,NC
Fayetteville, NC
Northern Virginia
Virginia Beach, VA

Site Photographs

Geophysical Study
1800 Garnet Street, Lynchburg, Virginia

DESIGNED: NA
DRAWN: CMP
CHECKED: FDP
DATE: 4/26/2021

PROJECT:
2109460

FIGURE
2

GPS Track of EM61 Data Collection

Geophysical Study
1800 Garnet Street, Lynchburg, Virginia

Draper Aden Associates
Engineering • Surveying • Environmental Services
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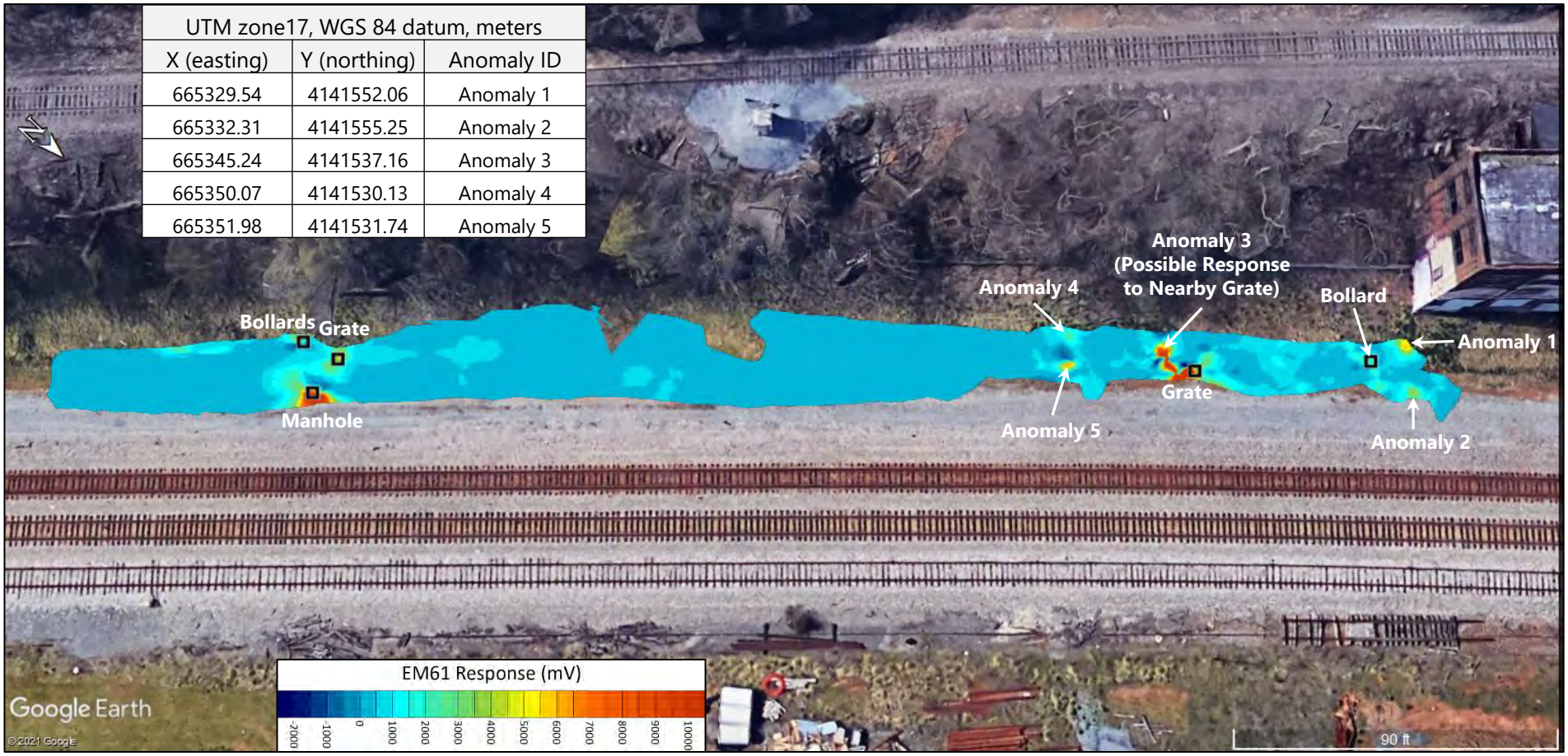
Northern Virginia
Virginia Beach, VA

DESIGNED: NA
DRAWN: CMP
CHECKED: FDP
DATE: 4/28/2021

PROJECT:
2109460

FIGURE
3

UTM zone17, WGS 84 datum, meters		
X (easting)	Y (northing)	Anomaly ID
665329.54	4141552.06	Anomaly 1
665332.31	4141555.25	Anomaly 2
665345.24	4141537.16	Anomaly 3
665350.07	4141530.13	Anomaly 4
665351.98	4141531.74	Anomaly 5



Results: EM61 Contours and Anomaly Locations

Geophysical Study
1800 Garnet Street, Lynchburg, Virginia

Draper Aden Associates
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2206 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291
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Northern Virginia
Virginia Beach, VA

DESIGNED: NA
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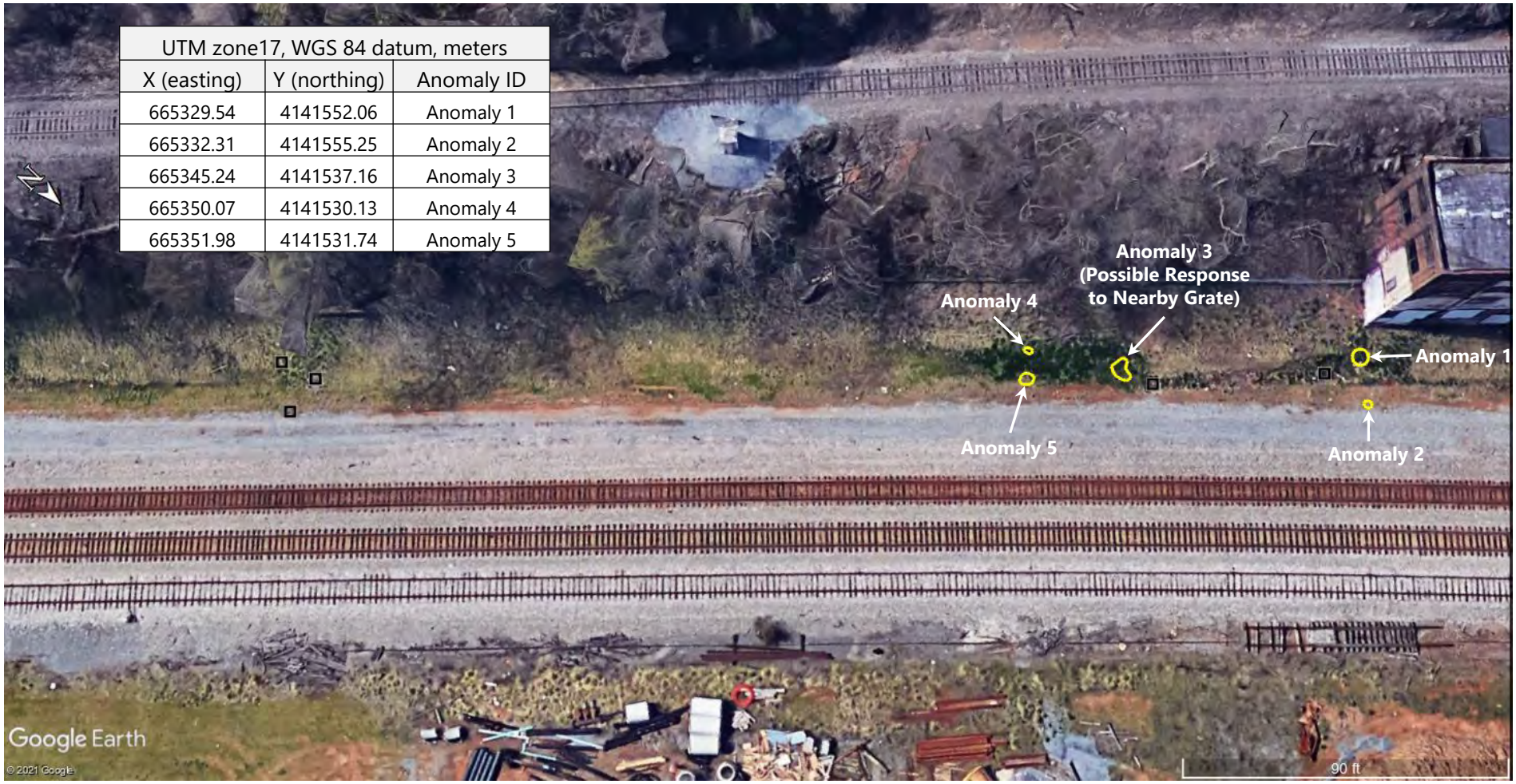
DATE: 4/28/2021

PROJECT:
2109460

FIGURE
4



Locations of EM61 Anomalies on Aerial Imagery

Geophysical Study
1800 Garnet Street, Lynchburg, Virginia

Draper Aden Associates
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2206 South Main Street
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Charlottesville, VA
Hampton Roads, VA
Raleigh, NC
Fayetteville, NC
Northern Virginia
Virginia Beach, VA

DESIGNED: NA
DRAWN: CMP
CHECKED: FDP
DATE: 4/28/2021

PROJECT: 2109460

FIGURE 5

ATTACHMENT 3

Data Summary Tables with Comparison to Screening Levels

Table 2-1: Summary of Soil Analytical Results
Phase II ESA - May Sampling Events
1800 Garnet Street, Lynchburg, Virginia

Analyte	Method	CAS #	USEPA Industrial RSL (mg/kg)	USEPA Residential RSL (mg/kg)	Sample ID / Depth / Results (mg/kg)																																			
					B01-1/ 14-15'	Q	B02-1/ 2.5'	Q	B03-1/ 7-8'	Q	B04-1/ 4-5'	Q	B05-1/ 0-6"	Q	B06-1/ 0-6"	Q	B06-2/ 2.5-3.5'	Q	B07-1/ 2.5'	Q	B08-1/ 0-6"	Q	B09-1/ 0-6"	Q	B10-1/ 0-6"	Q	B11-1/ 0-6"	Q	VS-1/ 5'	Q	VS-2/ 5'	Q								
Inorganic Compounds (mg/kg)																																									
Aluminum	6020B	7429-90-5	1,100,000	77,000	**12000**		**20000**		**13000**		**8500**		**19000**		**13000**		**14000**		**11000**		**14000**		**12000**		**11000**		**48000**		NS		NS										
Antimony	6020B	7440-36-0	470	31	0.22	U	0.27	U	0.24	U	**0.26**	**J**	**0.39**	**J**	**0.26**	**J**	0.23	U	**0.27**	**J**	0.23	U	**4.3**		**6.1**		**0.55**		NS		NS										
Arsenic	6020B	7440-38-2	3	0.68	**0.69**		**1.2**		**4.2**		**3.6**		**1.9**		**1.7**		**1.1**		**1.8**		**1.1**		**32**		**31**		**5**		NS		NS										
Barium	6020B	7440-39-3	220,000	15,000	**150**		**150**		**300**		**310**		**180**		**140**		**130**		**180**		**130**		**1300**		**250**		**290**		NS		NS										
Beryllium	6020B	7440-41-7	2,300	160	**0.94**		**2.9**		**1.2**		**0.87**		**2.2**		**1.2**		**1.1**		**1.3**		**1.1**		**0.77**		**0.64**		**3.4**		NS		NS										
Cadmium	6020B	7440-43-9	100	7.1	**0.032**	**J**	**0.14**	**J**	**0.082**	**J**	**0.079**	**J**	**0.27**		**0.15**		**0.041**	**J**	**0.33**		**0.041**	**J**	**4.5**		**5.7**		**0.36**		NS		NS										
Calcium	6020B	7440-70-2	NE	NE	**980**		**2700**		**1900**		**14000**		**2600**		**6400**		**1100**		**6300**		**1100**		**6500**	**B**	**4700**		**3600**	**B**	NS		NS										
Chromium	6020B	7440-47-3	1,800,000 (2)	120,000 (2)	**17**		**210**		**22**		**30**		**77**		**31**		**15**		**17**		**15**		**210**		**46**		**190**		NS		NS										
Cobalt	6020B	7440-48-4	350	23	**8.6**		**68**		**13**		**9.6**		**61**		**11**		**9.9**		**11**		**9.9**		**18**		**8.5**		**54**		NS		NS										
Copper	6020B	7440-50-8	47,000	3,100	**18**		**63**		**35**		**30**		**63**		**21**		**13**		**23**		**13**		**170**		**230**	**B**	**87**		NS		NS										
Iron	6020B	7439-89-6	820,000	55,000	**20000**		**79000**		**53000**		**52000**		**50000**		**24000**		**23000**		**29000**		**23000**		**61000**		**43000**		**80000**		NS		NS										
Lead	6020B	7439-92-1	800	400	**8**		**21**		**36**		**110**		**39**		**27**		**12**		**46**		**12**		**7700**		**590**	**B**	**49**		NS		NS										
Magnesium	6020B	7439-95-4	NE	NE	**3000**		**5800**		**3600**		**1700**		**2600**		**2700**		**2300**		**3700**		**2300**		**3000**		**2400**		**3900**		NS		NS										
Manganese	6020B	7439-96-5	26,000	1,800	**370**		**1500**		**430**		**1700**		**520**		**1000**		**390**		**420**		**390**		**2100**		**740**		**1200**		NS		NS										
Nickel	6020B	7440-02-0	22,000 (3)	1,500 (3)	**16**		**110**		**22**		**18**		**34**		**17**		**13**		**16**		**13**		**62**		**51**		**58**		NS		NS										
Potassium	6020B	7440-09-7	NE	NE	**5200**		**2600**		**7200**		**3000**		**3600**		**4900**		**3700**		**7200**		**3700**		**2700**		**2300**		**2300**		NS		NS										
Selenium	6020B	7782-49-2	5,800	390	**0.87**	**J**	**2**		**0.89**	**J**	**0.71**	**J**	**2.2**		**0.99**	**J**	**0.58**	**J**	**0.82**	**J**	**0.58**	**J**	**1**		**1.4**		**0.41**	**J**	NS		NS										
Silver	6020B	7440-22-4	5,800	390	0.065	U	**0.09**	**J**	0.073	U	0.073	U	0.1	U	0.07	U	0.068	U	0.067	U	0.068	U	**1.2**		**1.5**		**0.1**	**J**	NS		NS										
Sodium	6020B	7440-23-5	NE	NE	**49**	**J**	49	U	**67**	**J**	**130**		**66**	**J**	43	U	42	U	41	U	42	U	**120**		**110**		**60**		NS		NS										
Thallium	6020B	7440-28-0	12	0.78	**0.49**		**0.63**		**0.56**		**0.2**		**0.58**		**0.46**		**0.47**		**0.48**		**0.47**		**0.32**		**0.42**		**0.55**		NS		NS										
Vanadium	6020B	7440-62-2	5,800	390	**27**		**140**		**33**		**53**		**110**		**32**		**31**		**38**		**31**		**35**		**31**		**180**		NS		NS										
Zinc	6020B	7440-66-6	350,000	23,000	**74**		**150**		**100**		**87**		**160**		**110**		**71**		**180**		**71**		**1900**		**2000**		**190**		NS		NS										
Mercury	7471B	7439-97-6	46	11	0.023	U	0.026	U	0.025	U	0.027	U	**0.038**	**J**	**0.025**	**J**	0.022	U	**0.16**		0.022	U	**0.53**		**0.78**		**0.062**	**J**	NS		NS										
Cyanide	9012B	57-12/5	150	23	0.24	U	0.28	U	0.26	U	0.27	U	0.36	U	0.25	U	0.24	U	0.25	U	**1.3**		NS		NS		NS		NS		NS										
Volatile Organic Compounds (mg/kg)																																								
Acetone	8260D	67-64-1	1,100,000	70,000	0.0083	U	0.0094	U	**0.057**		**0.047**		NS		**0.047**		0.0074	U	0.0088	U	NS		NS		NS		NS		0.0095	U	**0.047**										
Benzene	8260D	71-43-2	5.1	1.2	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Bromochloromethane	8260D	74-97-5	630	150	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Bromodichloromethane	8260D	75-27-4	1.3	0.29	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Bromoform	8260D	75-25-2	86	19	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Bromomethane	8260D	74-83-9	30	6.8	0.0031	U	0.0035	U	0.0034	U	0.0039	U	NS		0.0038	U	0.0028	U	0.0033	U	NS		NS		NS		NS		0.0036	U	0.003	U									
2-Butanone	8260D	78-93-3	190,000	27,000	0.0041	U	0.0047	U	**0.011**	**J**	**0.009**	**J**	NS		**0.0094**	**J**	0.0037	U	0.0044	U	NS		NS		NS		NS		0.0048	U	**0.0061**	**J**									
Carbon Disulfide	8260D	75-15-0	3,500	770	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Carbon Tetrachloride	8260D	56-23-5	2.9	0.65	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Chlorobenzene	8260D	108-90-7	1,300	280	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Chloroethane	8260D	75-00-3	23,000	5,400	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Chloroform	8260D	67-66-3	1.4	0.32	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Chloromethane	8260D	74-87-3	460	110	0.0031	U	0.0035	U	0.0034	U	0.0039	U	NS		0.0038	U	0.0028	U	0.0033	U	NS		NS		NS		NS		0.0036	U	0.003	U									
Cyclohexane	8260D	110-82-7	27,000	6,500	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2-Dibromo-3-chloropropane	8260D	96-12-8	0.01	0.06	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Dibromochloromethane	8260D	124-48-1	39	8.3	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2-Dibromoethane	8260D	106-93-4	0.16	0.04	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2-Dichlorobenzene	8260D	95-50-1	9,300	1,800	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,3-Dichlorobenzene	8260D	541-73-1	NE	NE	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,4-Dichlorobenzene	8260D	106-46-7	11	2.6	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Dichlorodifluoromethane	8260D	75-71-8	370	87	0.0031	U	0.0035	U	0.0034	U	0.0039	U	NS		0.0038	U	0.0028	U	0.0033	U	NS		NS		NS		NS		0.0036	U	0.003	U									
1,1-Dichloroethane	8260D	75-34-3	16	3.6	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2-Dichloroethane	8260D	107-06-2	2	0.46	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,1-Dichloroethene	8260D	75-35-4	1,000	230	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
cis-1,2-Dichloroethene	8260D	156-59-2	2,300	160	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
trans-1,2-Dichloroethene	8260D	156-60-5	300	70	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2-Dichloropropane	8260D	78-87-5	11	2.5	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
cis-1,3-Dichloropropene	8260D	10061-01-5	NE	NE	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
trans-1,3-Dichloropropene	8260D	10061-02-6	NE	NE	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Ethylbenzene	8260D	100-41-4	25	5.8	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
2-Hexanone	8260D	591-78-6	1,300	200	0.0041	U	0.0047	U	0.0045	U	0.0052	U	NS		0.005	U	0.0037	U	0.0044	U	NS		NS		NS		NS		0.0048	U	0.004	U									
Isopropylbenzene	8260D	98-82-8	9,900	1,900	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Methyl Acetate	8260D	79-20-9	1,200,000	78,000	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Methyl Tertiary Butyl Ether	8260D	1634-04-4	210	47	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
4-Methyl-2-pentanone	8260D	108-10-1	140,000	33,000	0.0041	U	0.0047	U	0.0045	U	0.0052	U	NS		0.005	U	0.0037	U	0.0044	U	NS		NS		NS		NS		0.0048	U	0.004	U									
Methylcyclohexane	8260D	108-87-2	NE	NE	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Methylene Chloride	8260D	75-09-2	1,000	57	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Styrene	8260D	100-42-5	35,000	6,000	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,1,2,2-Tetrachloroethane	8260D	79-34-5	2.7	0.6	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Tetrachloroethene	8260D	127-18-4	100	24	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Toluene	8260D	108-88-3	47,000	4,900	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,1,2-Trichloro-1,2,2-Trifluoroethane	8260D	76-13-1	28,000	6,700	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2,3-Trichlorobenzene	8260D	87-61-6	930	63	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,2,4-Trichlorobenzene	8260D	120-82-1	110	24	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,1,1-Trichloroethane	8260D	71-55-6	36,000	8,100	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
1,1,2-Trichloroethane	8260D	79-00-5	5	1.1	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Trichloroethene	8260D	79-01-6	6	0.94	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Trichlorofluoromethane	8260D	75-69-4	350,000	23,000	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
Vinyl Chloride	8260D	75-01-4	1.7	0.06	0.0031	U	0.0035	U	0.0034	U	0.0039	U	NS		0.0038	U	0.0028	U	0.0033	U	NS		NS		NS		NS		0.0036	U	0.003	U									
m+p-Xylene	8260D	179601-23-1	2,400	560	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									
o-Xylene	8260D	95-47-6	2,800	640	0.0021	U	0.0024	U	0.0022	U	0.0026	U	NS		0.0025	U	0.0019	U	0.0022	U	NS		NS		NS		NS		0.0024	U	0.002	U									

Table 2-1: Summary of Soil Analytical Results
Phase II ESA - May Sampling Events
1800 Garnet Street, Lynchburg, Virginia

Analyte	Method	CAS #	USEPA Industrial RSL (mg/kg)	USEPA Residential RSL (mg/kg)	Sample ID / Depth / Results (mg/kg)																																					
					B01-1/ 14-15'	Q	B02-1/ 2.5'	Q	B03-1/ 7-8'	Q	B04-1/ 4-5'	Q	B05-1/ 0-6"	Q	B06-1/ 0-6"	Q	B06-2/ 2.5-3.5'	Q	B07-1/ 2.5'	Q	B08-1/ 0-6"	Q	B09-1/ 0-6"	Q	B10-1/ 0-6"	Q	B11-1/ 0-6"	Q	VS-1/ 5'	Q	VS-2/ 5'	Q
Semivolatile Organic Compounds (mg/kg)																																										
Acenaphthene	8270E	83-32-9	45,000	3,600	0.00097	U	0.0057	U	**0.02**		**0.015**	J	0.0073	U	**0.018**	J	0.00097	U	**0.16**		**0.16**	J	**0.048**	U	**0.061**		NS		NS		NS	
Acenaphthylene	8270E	208-96-8	23,000 (4)	1,800 (4)	0.0011	U	0.0065	U	**0.024**		**0.021**		0.0084	U	0.012	U	0.0011	U	0.011	U	**10**		**0.1**	J	**0.1**		NS		NS		NS	
Acetophenone	8270E	98-86-2	120,000	7,800	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	**0.045**	J	NS		NS		NS	
Anthracene	8270E	120-12-7	230,000	18,000	0.0006	U	**0.014**	J	**0.069**		**0.058**		**0.041**		**0.035**		0.00059	U	**0.39**		**8**		**0.17**	J	**0.19**		NS		NS		NS	
Atrazine	8270E	1912-24-9	10	2.4	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.96	U	**0.097**	U	NS		NS		NS	
Benzaldehyde	8270E	100-52-7	820	170	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.48	U	**0.12**	J	NS		NS		NS	
Benzo(a)anthracene	8270E	56-55-3	21	1.1	0.00069	U	**0.04**		**0.27**		**0.18**		**0.16**		**0.019**	J	0.00069	U	**0.76**		**26**		**0.27**		**0.61**		NS		NS		NS	
Benzo(a)pyrene	8270E	50-32-8	2.1	0.11	0.00077	U	**0.053**		**0.37**		**0.26**		**0.19**		0.0082	U	**0.0022**	J	**0.82**		**32**		**0.34**		**0.73**		NS		NS		NS	
Benzo(b)fluoranthene	8270E	205-99-2	21	1.1	0.00058	U	**0.063**		**0.42**		**0.26**		**0.21**		0.0062	U	**0.0027**	J	**0.91**		**51**		**0.57**		**1.2**		NS		NS		NS	
Benzo(g,h,i)perylene	8270E	191-24-2	23,000 (4)	1,800 (4)	0.00076	U	**0.027**		**0.17**		**0.12**		**0.076**		0.0081	U	0.00076	U	**0.33**		**8**		**0.29**		**0.61**		NS		NS		NS	
Benzo(k)fluoranthene	8270E	207-08-9	210	11	0.00056	U	**0.025**		**0.13**		**0.09**		**0.075**		0.006	U	0.00056	U	**0.36**		**22**		**0.2**	J	**0.36**		NS		NS		NS	
1,1'-Biphenyl	8270E	92-52-4	200	47	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	**0.21**		NS		NS		NS	
4-Bromophenyl-phenylether	8270E	101-55-3	NE	NE	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
Butylbenzylphthalate	8270E	85-68-7	1,200	290	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.96	U	0.097	U	NS		NS		NS	
Caprolactam	8270E	105-60-2	400,000	31,000	0.0058	U	0.034	U	0.032	U	**0.035**	J	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.48	U	0.048	U	NS		NS		NS	
Carbazole	8270E	86-74-8	NE	NE	0.0058	U	0.034	U	**0.032**	J	0.034	U	0.044	U	0.062	U	0.0058	U	**0.22**		**1.6**		0.24	U	0.12	U	NS		NS		NS	
bis (2-Chloro-1-methylethyl) ether	8270E	108-60-1	47,000	3,100	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.29	U	0.029	U	NS		NS		NS	
4-Chloro-3-methylphenol	8270E	59-50-7	82,000	6,300	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.29	U	0.029	U	NS		NS		NS	
4-Chloroaniline	8270E	106-47-8	11	2.7	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.48	U	0.048	U	NS		NS		NS	
bis(2-Chloroethoxy)methane	8270E	111-91-1	2,500	190	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
bis(2-Chloroethyl)ether	8270E	111-44-4	1	0.23	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
2-Chloronaphthalene	8270E	91-58-7	60,000	4,800	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.19	U	0.019	U	NS		NS		NS	
2-Chlorophenol	8270E	95-57-8	5,800	390	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
4-Chlorophenyl-phenylether	8270E	7005-72-3	NE	NE	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
Chrysene	8270E	218-01-9	2100	110	0.00053	U	**0.039**		**0.31**		**0.21**		**0.15**		0.0056	U	0.00052	U	**0.67**		**25**		**0.48**		**0.78**		NS		NS		NS	
Dibenz(a,h)anthracene	8270E	53-70-3	2.1	0.11	0.0006	U	0.0035	U	0.0032	U	0.0034	U	0.0045	U	0.0063	U	0.00059	U	0.0062	U	0.043	U	0.096	U	**0.15**		NS		NS		NS	
Dibenzofuran	8270E	132-64-9	1,200	78	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	**0.11**	J	0.42	U	0.24	U	**0.2**		NS		NS		NS	
3,3'-Dichlorobenzidine	8270E	91-94-1	5.1	1.2	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.48	U	**0.048**		NS		NS		NS	
2,4-Dichlorophenol	8270E	120-83-2	2,500	190	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.29	U	0.029	U	NS		NS		NS	
Diethylphthalate	8270E	84-66-2	660,000	51,000	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.96	U	0.097	U	NS		NS		NS	
Dimethylphthalate	8270E	131-11-3	NE	NE	0.0087	U	0.051	U	0.047	U	0.05	U	0.065	U	0.092	U	0.0086	U	0.09	U	0.62	U	0.96	U	0.097	U	NS		NS		NS	
2,4-Dimethylphenol	8270E	105-67-9	16,000	1,300	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
Di-n-butylphthalate	8270E	84-74-2	82,000	6,300	**0.0067**	J	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	**0.013**	J	0.06	U	0.42	U	0.96	U	0.097	U	NS		NS		NS	
4,6-Dinitro-2-methylphenol	8270E	534-52-1	66	5.1	0.029	U	0.17	U	0.16	U	0.17	U	0.22	U	0.31	U	0.029	U	0.3	U	2.1	U	2.4	U	0.24	U	NS		NS		NS	
2,4-Dinitrophenol	8270E	51-28-5	1,600	130	0.029	U	0.17	U	0.16	U	0.17	U	0.22	U	0.31	U	0.029	U	0.3	U	2.1	U	2.4	U	0.24	U	NS		NS		NS	
2,4-Dinitrotoluene	8270E	121-14-2	7.4	1.7	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.48	U	0.048	U	NS		NS		NS	
2,6-Dinitrotoluene	8270E	606-20-2	1.5	0.36	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.24	U	0.024	U	NS		NS		NS	
Di-n-octylphthalate	8270E	117-84-0	8,200	630	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.96	U	0.097	U	NS		NS		NS	
1,4-Dioxane	8270E	123-91-1	24	5.3	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.48	U	0.048	U	NS		NS		NS	
bis(2-Ethylhexyl)phthalate	8270E	117-81-7	160	39	0.029	U	0.17	U	0.16	U	0.17	U	0.22	U	0.31	U	0.029	U	0.3	U	2.1	U	0.96	U	0.097	U	NS		NS		NS	
Fluoranthene	8270E	206-44-0	30,000	2,400	0.00049	U	**0.073**		**0.61**		**0.41**		**0.32**		**0.023**	J	**0.0035**		**1.9**		**21**		**0.54**		**1.2**		NS		NS		NS	
Fluorene	8270E	86-73-7	30,000	2,400	0.00067	U	0.0039	U	**0.03**		**0.024**		0.005	U	**0.021**	J	0.00066	U	**0.19**		**0.41**		**0.052**	J	**0.051**		NS		NS		NS	
Hexachlorobenzene	8270E	118-74-1	0.96	0.21	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	**0.096**		0.0097	U	NS		NS		NS	
Hexachlorobutadiene	8270E	87-68-3	5.3	1.2	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	**0.29**		0.029	U	NS		NS		NS	
Hexachlorocyclopentadiene	8270E	77-47-4	7.5	1.8	0.029	U	0.17	U	0.16	U	0.17	U	0.22	U	0.31	U	0.029	U	0.3	U	2.1	U	**2.4**		0.24	U	NS		NS		NS	
Hexachloroethane	8270E	67-72-1	8	1.8	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	**0.48**		0.048	U	NS		NS		NS	
Indeno(1,2,3-cd)pyrene	8270E	193-39-5	21	1.1	0.0012	U	**0.023**		**0.14**		**0.1**		**0.071**		0.012	U	0.0012	U	**0.32**		**10**		**0.21**	J	**0.52**		NS		NS		NS	
Isophorone	8270E	78-59-1	2,400	570	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
2-Methylnaphthalene	8270E	91-57-6	3,000	240	0.0012	U	0.0068	U	**0.05**		**0.037**		**0.013**	J	0.012	U	0.0012	U	**0.042**		**0.79**		**0.94**		**1.4**		NS		NS		NS	
2-Methylphenol	8270E	95-48-7	41,000	3,200	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.29	U	0.029	U	NS		NS		NS	
4-Methylphenol (1)	8270E	106-44-5	82,000 (1)	6,300 (1)	0.012	U	0.069	U	0.063	U	**0.46**		0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.24	U	**0.043**	J	NS		NS		NS	
Naphthalene	8270E	91-20-3	8.6	2	0.0011	U	0.0067	U	**0.042**		**0.046**		**0.013**	J	0.012	U	0.0011	U	**0.1**		**0.92**		**0.75**		**0.64**		NS		NS		NS	
2-Nitroaniline	8270E	88-74-4	8,000	630	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.24	U	0.024	U	NS		NS		NS	
3-Nitroaniline	8270E	99-09-2	NE	NE	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.48	U	0.048	U	NS		NS		NS	
4-Nitroaniline	8270E	100-01-6	110	27	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.48	U	0.048	U	NS		NS		NS	
Nitrobenzene	8270E	98-95-3	22	5.1	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
2-Nitrophenol	8270E	88-75-5	NE	NE	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.29	U	0.029	U	NS		NS		NS	
4-Nitrophenol	8270E	100-02-7	NE	NE	0.029	U	0.17	U	0.16	U	0.17	U	0.22	U	0.31	U	0.029	U	0.3	U	2.1	U	2.4	U	0.24	U	NS		NS		NS	
N-Nitroso-di-n-propylamine	8270E	621-64-7	0.33	0.08	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.48	U	0.048	U	NS		NS		NS	
N-Nitrosodiphenylamine	8270E	86-30-6	470	110	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	**0.046**		0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
Pentachlorophenol	8270E	87-86-5	4	1	0.029	U	0.17	U	0.16	U	0.17	U	0.22	U	0.31	U	0.029	U	0.3	U	2.1	U	0.96	U	0.097	U	NS		NS		NS	
Phenanthrene	8270E	85-01-8	23,000 (4)	1,800 (4)	0.00084	U	**0.044**		**0.3**		**0.24**		**0.14**		0.009	U	0.00084	U	**1.6**		**1.5**		**0.56**		**0.76**		NS		NS		NS	
Phenol	8270E	108-95-2	250,000	19,000	0.0058	U	0.034	U	0.032	U	**0.087**	J	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	**0.29**	J	0.024	U	NS		NS		NS	
Pyrene	8270E	129-00-0	23,000	1,800	0.00058	U	**0.062**		**0.6**		**0.39**		**0.3**		**0.024**	J	**0.0046**		**1.3**		**21**		**0.45**		**1.1**		NS		NS		NS	
1,2,4,5-Tetrachlorobenzene	8270E	95-94-3	35	2.3	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.24	U	0.024	U	NS		NS		NS	
2,3,4,6-Tetrachlorophenol	8270E	58-90-2	25,000	1,900	0.012	U	0.069	U	0.063	U	0.068	U	0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.96	U	0.097	U	NS		NS		NS	
2,4,5-Trichlorophenol	8270E	95-95-4	82,000	6,300	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
2,4,6-Trichlorophenol	8270E	88-06-2	210	49	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.24	U	0.024	U	NS		NS		NS	
Polychlorinated Biphenyls; PCBs; Aroclors (mg/kg)																																										
Aroclor-1016	8082A	12674-11-2	27	4.1	0.0032	U	0.0036	U	0.0035	U	0.0035	U	0.0048	U	0.033	U	0.0031	U	0.0033	U	0.0043	U	0.038	U	0.039	U	0.0074	U	NS		NS		NS	
Aroclor-1221	8082A	11104-28-2	0.83	0.2	0.0027	U	0.0031	U	0.003	U	0.003	U	0.004	U	0.028	U	0.0026	U	0.0028	U	0.0037	U	0.038	U	0.039	U	0.0074	U	NS		NS		NS	
Aroclor-1232	8082A	11141-16-5	0.72	0.17	0.0025	U	0.0028	U	0.0027	U	0.0027	U	0.0037	U	0.026	U	0.0024	U	0.0026	U	0.0034	U	0.038	U	0.039	U	0.0074	U	NS		NS		NS	
Aroclor-1242	8082A	53469-21-9	0.95	0.23	0.0018	U	0.0021	U	0.002	U	0.002	U	0.0027	U	0.019	U	0.0018	U	0.0019	U	0.0025	U	0.038	U	0.039	U	0.0074	U	NS		NS		NS	
Aroclor-1248	8082A	12672-29-6	0.94	0.23	0.0048	U	0.0054	U	0.0053	U	0.0053	U	0.0072	U	0.05	U	0.0047	U	0.005	U	0.0065	U	0.038	U	0.039	U	0.0074	U	NS		NS		NS	
Aroclor-1254	8082A	11097-69-1	0.97	0.24	0.0029	U	0.0033	U	0.0033	U	0.0033	U	0.0044	U	0.031	U	0.0029	U	0.0031	U	0.004	U	0.046	U	0.047	U	0.0089	U	NS		NS		NS	
Aroclor-1260	8082A	11096-82-5	0.99	0.24	0.0029	U	0.0032	U	0.0032	U	0.0032	U	0.0043	U	0.03	U	0.0028	U	0.003	U	**0.058**	J	0.07	J	**0.12**		0.0089	U	NS		NS		NS	
Aroclor-1262	8082A	37324-23-5	NE	NE	0.0024	U	0.0028	U	0.0027	U	0.0027	U	0.0036	U	0.025	U	0.0024	U	0.0026	U	0.0033	U	0.046	U	0.047	U	0.0089	U	NS		NS		NS	
Aroclor-1268	8082A	11100-14-4	NE	NE	0.0017	U	0.0019	U	0.0018	U	0.0019	U	0.0025	U	0.017	U	0.0016	U	0.0017	U	0.0023	U	**0.17**		0.047	U	0.0089	U	NS		NS		NS	

Notes:
U - Denotes analyte not detected at or above method detection limit or quantitation limit.
U J - Denotes analyte not detected at or above method detection limit (MDL) or quantitation limit (QL) and MDL and QL are estimated. See data validation report for additional information.
J - Denotes estimated value.
NS - Denotes not sampled.
NE - Denotes not established.
RSL - Denotes Regional Screening Level - United States Environmental Protection Agency Region Regional Screening Level (RSL) Summary Table November 2021 (TR=1E-06 THQ=1.0)
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
Q - Denotes data validation qualifier.
B - Denotes result considered influenced by laboratory contamination
JB - Denotes result considered influenced by laboratory contamination and result/QL considered estimated
(1) 3-Methylphenol and 4-Methylphenol cannot be resolved. Result is combination of both results.
(2) Chromium III, Insoluble Salts was selected as a screening value for total chromium.
(3) Nickel Soluble Salts was selected as the screening value for total nickel.
(4) Pyrene was selected as a surrogate for non-carcenogenic PAHs (acenaphthylene, benzo[g,h,i]perylene and phenanthrene).

Due to limitations of analytical methods and budget constraints, there may be certain instances where the laboratory quantitation or detection limits are greater than the project action levels. However, this should not hinder this assessment, as a comprehensive review of all analytical results across the site will help determine if further evaluation beyond the scope of this assessment may be required.

Table 2-2: Summary of Detected Soil Analytical Results
Phase II ESA - May Sampling Events
1800 Garnet Street, Lynchburg, Virginia

Analyte	Method	CAS #	USEPA Industrial RSL (mg/kg)	USEPA Residential RSL (mg/kg)	Sample ID / Depth / Results (mg/kg)																																					
					B01-1/ 14-15'	Q	B02-1/ 2.5'	Q	B03-1/ 7-8'	Q	B04-1/ 4-5'	Q	B05-1/ 0-6"	Q	B06-1/ 0-6"	Q	B06-2/ 2.5-3.5'	Q	B07-1/ 2.5'	Q	B08-1/ 0-6"	Q	B09-1/ 0-6"	Q	B10-1/ 0-6"	Q	B11-1/ 0-6"	Q	VS-1/ 5'	Q	VS-2/ 5'	Q										
Inorganic Compounds (mg/kg)																																											
Aluminum	6020B	7429-90-5	1,100,000	77,000	12000		20000		13000		8500		19000		13000		14000		11000		14000		12000		11000		48000		NS		NS											
Antimony	6020B	7440-36-0	470	31	0.22	U	0.27	U	0.24	U	0.26	J	0.39	J	0.26	J	0.23	U	0.27	J	0.23	U	4.3		6.1		0.55		NS		NS		U									
Arsenic	6020B	7440-38-2	3	0.68	0.69		1.2		4.2		3.6		1.9		1.7		1.1		1.8		1.1		32		31		5		NS		NS											
Barium	6020B	7440-39-3	220,000	15,000	150		150		300		310		180		140		130		180		130		1300		250		290		NS		NS											
Beryllium	6020B	7440-41-7	2,300	160	0.94		2.9		1.2		0.87		2.2		1.2		1.1		1.3		1.1		0.77		0.64		3.4		NS		NS											
Cadmium	6020B	7440-43-9	100	7.1	0.032	J	0.14	J	0.082	J	0.079	J	0.27		0.15		0.041	J	0.33		0.041	J	4.5		5.7		0.36		NS		NS		J									
Calcium	6020B	7440-70-2	NE	NE	980		2700		1900		14000		2600		6400		1100		6300		1100		6500	B	4700		3600	B	NS		NS											
Chromium	6020B	7440-47-3	1,800,000 (2)	120,000 (2)	17		210		22		30		77		31		15		17		15		210		46		190		NS		NS											
Cobalt	6020B	7440-48-4	350	23	8.6		68		13		9.6		61		11		9.9		11		9.9		18		8.5		54		NS		NS											
Copper	6020B	7440-50-8	47,000	3,100	18		63		35		30		63		21		13		23		13		170		230	B	87		NS		NS											
Iron	6020B	7439-89-6	820,000	55,000	20000		79000		53000		52000		50000		24000		23000		29000		23000		61000		43000		80000		NS		NS											
Lead	6020B	7439-92-1	800	400	8		21		36		110		39		27		12		46		12		7700		590	B	49		NS		NS											
Magnesium	6020B	7439-95-4	NE	NE	3000		5800		3600		1700		2600		2700		2300		3700		2300		3000		2400		3900		NS		NS											
Manganese	6020B	7439-96-5	26,000	1,800	370		1500		430		1700		520		1000		390		420		390		2100		740		1200		NS		NS											
Nickel	6020B	7440-02-0	22,000 (3)	1,500 (3)	16		110		22		18		34		17		13		16		13		62		51		58		NS		NS											
Potassium	6020B	7440-09-7	NE	NE	5200		2600		7200		3000		3600		4900		3700		7200		3700		2700		2300		2300		NS		NS											
Selenium	6020B	7782-49-2	5,800	390	0.87	J	2		0.89	J	0.71	J	2.2		0.99	J	0.58	J	0.82	J	0.58	J	1		1.4		0.41	J	NS		NS		J									
Silver	6020B	7440-22-4	5,800	390	0.065	U	0.09	J	0.073	U	0.073	U	0.1	U	0.07	U	0.068	U	0.067	U	0.068	U	1.2		1.5		0.1	J	NS		NS		U									
Sodium	6020B	7440-23-5	NE	NE	49	J	49	U	67	J	130		66	J	43	U	42	U	41	U	42	U	120		110		60		NS		NS		J									
Thallium	6020B	7440-28-0	12	0.78	0.49		0.63		0.56		0.2		0.58		0.46		0.47		0.48		0.47		0.32		0.42		0.55		NS		NS											
Vanadium	6020B	7440-62-2	5,800	390	27		140		33		53		110		32		31		38		31		35		31		180		NS		NS											
Zinc	6020B	7440-66-6	350,000	23,000	74		150		100		87		160		110		71		180		71		1900		2000		190		NS		NS											
Mercury	7471B	7439-97-6	46	11	0.023	U	0.026	U	0.025	U	0.027	U	0.038	J	0.025	J	0.022	U	0.16		0.022	U	0.53		0.78		0.062	J	NS		NS		U									
Volatile Organic Compounds (mg/kg)			***Industrial RSL***	***Residential RSL***	B01-1/ 1-2'	Q	B02-1/ 10-12'	Q	B03-1/ 1-2'	Q	B04-1/ 2-3'	Q	B05-1/ 1-2'	Q	B06-1/ 1-2'	Q	B06-2/ 4-5'	Q	B07-1/ 2'	1-	Q	B08-1/ 2'	1	Q	B09-1	Q	B10-1	Q	B11-1	Q	VS-1	Q	VS-2	Q								
Acetone	8260D	67-64-1	1,100,000	70,000	0.0083	U	0.0094	U	0.057		0.047		NS		0.047		0.0074	U	0.0088	U	NS		NS		NS		NS		0.0095	U	0.047											
2-Butanone	8260D	78-93-3	190,000	27,000	0.0041	U	0.0047	U	0.011	J	0.009	J	NS		0.0094	J	0.0037	U	0.0044	U	NS		NS		NS		NS		0.0048	U	0.0061	U										
Semivolatile Organic Compounds (mg/kg)			***Industrial RSL***	***Residential RSL***	B01-1/ 1-2'	Q	B02-1/ 10-12'	Q	B03-1/ 1-2'	Q	B04-1/ 2-3'	Q	B05-1/ 1-2'	Q	B06-1/ 1-2'	Q	B06-2/ 4-5'	Q	B07-1/ 1-2'	Q	B08-1/ 1-2'	Q	B09-1	Q	B10-1	Q	B11-1	Q	VS-1	Q	VS-2	Q										
Acenaphthene	8270E	83-32-9	45,000	3,600	0.00097	U	0.0057	U	0.02		0.015	J	0.0073	U	0.018	J	0.00097	U	0.16		0.16	J	0.048	U	0.061		NS		NS		NS		J									
Acenaphthylene	8270E	208-96-8	23,000 (4)	1,800 (4)	0.0011	U	0.0065	U	0.024		0.021		0.0084	U	0.012	U	0.0011	U	0.011	U	10		0.1	J	0.1		NS		NS		NS		U									
Acetophenone	8270E	98-86-2	120,000	7,800																			0.24	U	0.045	J	NS															
Anthracene	8270E	120-12-7	230,000	18,000	0.0006	U	0.014	J	0.069		0.058		0.041		0.035		0.00059	U	0.39		8		0.17	J	0.19		NS		NS		NS											
Atrazine	8270E	1912-24-9	10	2.4																			0.96	U	0.097	U	NS															
Benzaldehyde	8270E	100-52-7	820	170																			0.48	U	0.12	J	NS															
Benzo(a)anthracene	8270E	56-55-3	21	1.1	0.00069	U	0.04		0.27		0.18		0.16		0.019	J	0.00069	U	0.76		26		0.27		0.61		NS		NS		NS											
Benzo(a)pyrene	8270E	50-32-8	2.1	0.11	0.00077	U	0.053		0.37		0.26		0.19		0.0082	U	0.0022	J	0.82		32		0.34		0.73		NS		NS		NS											
Benzo(b)fluoranthene	8270E	205-99-2	21	1.1	0.00058	U	0.063		0.42		0.26		0.21		0.0062	U	0.0027	J	0.91		51		0.57		1.2		NS		NS		NS											
Benzo(g,h,i)perylene	8270E	191-24-2	23,000 (4)	1,800 (4)	0.00076	U	0.027		0.17		0.12		0.076		0.0081	U	0.00076	U	0.33		8		0.29		0.61		NS		NS		NS											
Benzo(k)fluoranthene	8270E	207-08-9	210	11	0.00056	U	0.025		0.13		0.09		0.075		0.006	U	0.00056	U	0.36		22		0.2	J	0.36		NS		NS		NS											
1,1'-Biphenyl	8270E	92-52-4	200	47																			0.24	U	0.21		NS															
Caprolactam	8270E	105-60-2	400,000	31,000	0.0058	U	0.034	U	0.032	U	0.035	J	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U					NS		NS		NS		U									
Carbazole	8270E	86-74-8	NE	NE	0.0058	U	0.034	U	0.032	J	0.034	U	0.044	U	0.062	U	0.0058	U	0.22		1.6						NS		NS		NS		U									
Chrysene	8270E	218-01-9	2100	110	0.00053	U	0.039		0.31		0.21		0.15		0.0056	U	0.00052	U	0.67		25		0.48		0.78		NS		NS		NS											
Dibenz(a,h)anthracene	8270E	53-70-3	2.1	0.11																			0.096	U	0.15		NS															
Dibenzofuran	8270E	132-64-9	1,200	78	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.0058	U	0.11	J	0.42	U	0.24	U	0.2		NS		NS		NS		U									
3,3'-Dichlorobenzidine	8270E	91-94-1	5.1	1.2																			0.48	U	0.048		NS															
Di-n-butylphthalate	8270E	84-74-2	82,000	6,300	0.0067	J	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.013	J	0.06	U	0.42	U					NS		NS		NS		U									
Fluoranthene	8270E	206-44-0	30,000	2,400	0.00049	U	0.073		0.61		0.41		0.32		0.023	J	0.0035		1.9		21		0.54		1.2		NS		NS		NS											
Fluorene	8270E	86-73-7	30,000	2,400	0.00067	U	0.0039	U	0.03		0.024		0.005	U	0.021	J	0.00066	U	0.19		0.41		0.052	J	0.051		NS		NS		NS		U									
Hexachlorobenzene	8270E	118-74-1	0.96	0.21																			0.096		0.0097	U	NS															
Hexachlorobutadiene	8270E	87-68-3	5.3	1.2																			0.29		0.029	U	NS															
Hexachlorocyclopentadiene	8270E	77-47-4	7.5	1.8																			2.4		0.24	U	NS															
Hexachloroethane	8270E	67-72-1	8	1.8																			0.48		0.048	U	NS															
Indeno(1,2,3-cd)pyrene	8270E	193-39-5	21	1.1	0.0012	U	0.023		0.14		0.1		0.071		0.012	U	0.0012	U	0.32		10		0.21	J	0.52		NS		NS		NS											
2-Methylnaphthalene	8270E	91-57-6	3,000	240	0.0012	U	0.0068	U	0.05		0.037		0.013	J	0.012	U	0.0012	U	0.042		0.79		0.94		1.4		NS		NS		NS		J									
4-Methylphenol (1)	8270E	106-44-5	82,000 (1)	6,300 (1)	0.012	U	0.069	U	0.063	U	0.46		0.088	U	0.12	U	0.012	U	0.12	U	0.83	U	0.24	U	0.043	J	NS		NS		NS		U									
Naphthalene	8270E	91-20-3	8.6	2	0.0011	U	0.0067	U	0.042		0.046		0.013	J	0.012	U	0.0011	U	0.1		0.92		0.75		0.64		NS		NS		NS		J									
N-Nitrosodiphenylamine	8270E	86-30-6	470	110	0.0058	U	0.034	U	0.032	U	0.034	U	0.044	U	0.062	U	0.046		0.06	U	0.42	U					NS		NS		NS		U									
Phenanthrene	8270E	85-01-8	23,000 (4)	1,800 (4)	0.00084	U	0.044		0.3		0.24		0.14		0.009	U	0.00084	U	1.6		1.5		0.56		0.76		NS		NS		NS											
Phenol	8270E	108-95-2	250,000	19,000	0.0058	U	0.034	U	0.032	U	0.087	J	0.044	U	0.062	U	0.0058	U	0.06	U	0.42	U	0.29	J	0.024	U	NS		NS		NS		U									
Pyrene	8270E	129-00-0	23,000	1,800	0.00058	U	0.062		0.6		0.39		0.3		0.024	J	0.0046		1.3		21		0.45		1.1		NS		NS		NS											
Polychlorinated Biphenyls; PCBs; Aroclors (mg/kg)			***Industrial RSL***	***Residential RSL***	B01-1/ 1-2'	Q	B02-1/ 10-12'	Q	B03-1/ 1-2'	Q	B04-1/ 2-3'	Q	B05-1/ 1-2'	Q	B06-1/ 1-2'	Q	B06-2/ 4-5'	Q	B07-1/ 1-2'	Q	B08-1/ 1-2'	Q	B09-1	Q	B10-1	Q	B11-1	Q	VS-1	Q	VS-2	Q										
Aroclor-1260	8082A	11096-82-5	0.99	0.24	0.0029	U	0.0032	U	0.0032	U	0.0032	U	0.0043	U	0.03	U	0.0028	U	0.003	U	0.058		0.07	J	0.12		NS		NS		NS		U									

Notes:
U - Denotes analyte not detected at or above method detection limit or quantitation limit.
U J - Denotes analyte not detected at or above method detection limit (MDL) or quantitation limit (QL) and MDL and QL are estimated. See data validation report for additional information.
J - Denotes estimated value.
NS - Denotes not sampled.
NE - Denotes not established.
RSL - Denotes Regional Screening Level - United States Environmental Protection Agency Region Regional Screening Level (RSL) Summary Table May 2021 (TR=1E-06 THQ=1.0)
Shading - denotes concentration is greater than a RSL.
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
VRP Tier III Industrial Soil Screening Level (mg/kg)- Virginia Department of Environmental Quality Voluntary Remediation Program Screening Levels (VRP); Based on EPA Region 3 RSL Update: November 2019
Q - Denotes data validation qualifier.
B - Denotes result considered influenced by laboratory contamination
JB - Denotes result considered influenced by laboratory contamination and result/QL considered estimated
(1) 3-Methylphenol and 4-Methylphenol cannot be resolved. Result is combination of both results.
(2) Chromium III, Insoluble Salts was selected as a screening value for total chromium.
(3) Nickel Soluble Salts was selected as the screening value for total nickel.
(4) Pyrene was selected as a surrogate for non-carcenogenic PAHs (acenaphthylene, benzo[g,h,i]perylene and phenanthrene).
(5) Chromium VRP limit based on hexavalent chromium screening limit
Due to limitations of analytical methods and budget constraints, there may be certain instances where the laboratory quantitation or detection limits are greater than the project action levels. However, this should not hinder this assessment, as a comprehensive review of all analytical results across the site will help determine if further evaluation beyond the scope of this assessment may be required.

Table 3
Summary of Constituents Detected in Near-Slab Soil Gas Vapor Samples
Phase II Environmental Site Assessment
1800 Garnet Street, Lynchburg, Virginia
DAA Job No. 2109460

Sample Location/ID/Analyte	VDEQ VRP Tier III Industrial Shallow/ Sub-Slab Soil Gas Screening Level (May 2020)	VDEQ VRP Tier III Residential Shallow/ Sub-Slab Soil Gas Screening Level (May 2020)	VS-1		VS2	
Type			***Near-Slab Soil Gas Vapor***			
(ug/m3)			Result	Q	Result	Q
Acetone	466,666.667	106666.667	86		110	
2-Butanone (MEK)	73,333.333	17333.333	310		320	
Chloroform	176.667	40	11		3.7	
Ethanol	NE	NE	<38		54	
Heptane	6,000	1400	18		<2.0	
Tetrachloroethylene	600	140	11		<3.4	
Toluene	73,333.333	17333.333	<1.9		7	
1,1,1-Trichloroethane	73,333.333	17333.333	35		10	
m&p-Xylene	1,466.667	333.333	<4.3		5.4	

Notes:

Sample collection date: May 20, 2021.

RSL -

VDEQ VRP Industrial Screening Level (SL): Based on VDEQ Voluntary Remediation Program Screening Levels (Tier III Residential) Region 3 RSL Update May 2020
https://www.deq.virginia.gov/land-waste/land-remediation/voluntary-remediation

ug/m^3: micrograms per cubic meter

< denotes analyte not detected at or above the RL.

J denotes analyte present, reported value may not be accurate or precise (because certain quality control criteria were not met).

<J denotes analyte not detected at or above the RL; RL estimated. See data validation for further explanation.

R denotes result rejected. See data validation for further explanation

NE Denotes not established

ATTACHMENT 4

Field Documentation

Draper Aden Associates
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2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 (T) (540) 552-0291 (F)

Location Notes:

Project Name: 1800 Garnet
Site Location: Lynchburg
DAA JN: 2101460
Date: 5/20/21
Project PM/Coordinator: KW
Logged By: HSB

Field Point Name: VS-1
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: 5' Auger Refusal (Y/N): N

Description of Aquifer: samples
VS-1: (1035) VOCs
5' depth

Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	1.5	L	M	reddish brown	C	Sa	M	AS	6				native soils
2	1.5	3	So	H	dark brown	C	Si	M	AS	12				native soils
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

PID: 2.5' 11.6 ppm
5' 10.9 ppm

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Location Notes:

Project Name: 1900 Comet
Site Location: Lynchburg
DAA JN: 210460
Date: 5/20/21
Project PM/Coordinator: KW
Logged By: HSB

Field Point Name: B03
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: 10 Auger Refusal (Y/N): 0 10'

Description of Aquifer: B03 (11:30)
DUP-1 (11:35)
VOCs, SVOCs, PCB, TM+CN
7'-8' depth
Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	5	F	M	Dark brown	G	C	M	AS	18				gravel fill mix w/ organics
2	5	7	So	H	olive gray	C	Si	M	AS	24				saturated @ 5
3	7	9	H	M	greenish gray	C	Si	M	AS	24				tight clays sat.
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

PID 5' = 36.4 ppm
7' = 52 ppm
10' = 30.3 ppm

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Location Notes:

Project Name: 1900 Garnet
Site Location: Lynchburg
DAA JN: 210468
Date: 5/20/21
Project PM/Coordinator: TW
Logged By: HSB

Field Point Name: VS-2
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: Auger Refusal (Y/N): 5'

Description of Aquifer: VS-2 (11:00) VOCs 5' depth

Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	1	L	H	dark brown	O	Si	M	AS	12				organic material
2	1	4.5	So	H	brown	C	Si	W	AS	24				micaceous clay
3	4.5	5	So	H	Blue/gray	C	Si	M	AS	4				saturated clay
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

PID: 2' = 9.1 ppm
3,5' = 15.0 ppm
5' = 26.2 ppm

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Location Notes:

Project Name: 1600 Garnett
Site Location: Lynchburg
DAA JN: 2101460
Date: 5/20/21
Project PM/Coordinator: KN
Logged By: HSB

Field Point Name: B04
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: Auger Refusal (Y/N): 0 15

Description of Aquifer: B04 (12:00)
MS/MSD (12:00)
VOC, SVOC, PCBS, TM, CN
4'-5' depth

Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density (L=Loose So=Soft F=Firm St=Stiff H=Hard)	Plasticity (N=None L=Low M=Medium H=High)	Color(s)	Major Component (G=Gravel Sa=Sand C=Clay Si=Silt O=Org)	Minor Component (G=Gravel Sa=Sand C=Clay Si=Silt O=Org)	Water Content (D=Dry M=Moist W=Wet)	Sample Type (C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core)	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	2	So	H	light brown	C	G	W	AS	6				organic material
2	2	3	F	M	light blue	C	Sa	M	AS	6				sandy fill
3	3	5	F	M	dark brown	C	G	M	AS	6				black fill sat. @ bottom
4	5	6	F	M	brown	C	G	M	AS	6				native clay
5	6	8	F	M	light blue	C	Sa	M	AS	12				native clay
6	8	15	F	M	light brown	Sa	C	M	AS	46				native clay
7														
8														
9														
10														
11														
12														
13														
14														
15														

PID = 2.5' = 20.1 ppm
5' = 32.2 ppm
7.5' = 13.8 ppm
10' = 24.6 ppm
12.5' = 37.6 ppm
15' = 42.5 ppm

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Location Notes:

Project Name: 1900 Garnet
Site Location: Lynchburg
DAA JN: 210460
Date: 5/20/21
Project PM/Coordinator: KW
Logged By: ASB

Field Point Name: B02
Drilling Method: DP
Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: Auger Refusal (Y/N): 0 10'

Description of Aquifer: B02 (12:25)
VOCs, SVOCs, PCBs, TM+CN
depth: ~~5'~~ 2.5'
Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	1	So	H	light orange	C	Si	M	AS	12				orange clay
2	1	4	SO	H	dark orange	C	Si	M	AS	36				orange clay
3	4	5	F	H	brown	C	Si	M	AS	6				native soil
4	5	7.5	So	H	brown	C	Si	M	AS	24				native soil
5	7.5	10	F	H	light blue/ grey	C	G	M	AS	12				native soil
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

PID 2.5' = 51.6 ppm
5' = 37.2 ppm
7.5' = 11.8 ppm
9' = 24.8 ppm

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Location Notes:

Project Name: 1900 Garnett
Site Location: Wheeling
DAA JN: 21014G6
Date: 5/20/21
Project PM/Coordinator: KW
Logged By: HSB

Field Point Name: B01
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: Auger Refusal (Y/N):

Description of Aquifer: B01-1 (13:00)
VOC, SVOC, PCBs, TM+, CN
Depth: 14' - 15'

Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	6"	L	N	grey	G	Sa	D	AS					gravel fill
2	6"	5'	So	H	orange	Sa	C	D	AS					Sandy fill
3	5'	9'	So	H	orange	C	Sa	M	AS					sand/clay mix
4	9'	10'	H	H	grey	C	Si	M	AS					grey clay
5	10'	15'	So	H	brown	C	Sa	W	AS					Saturated @ 8'
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

2.5' = 41.6 ppm
5' = 30.2 ppm
7.5' = 76.8 ppm
10' = 44.6 ppm
12.5' = 48.6 ppm
15' = 76 ppm

Draper Aden Associates

Engineering • Surveying • Environmental Services

Blacksburg • Charlottesville • Hampton Roads • Richmond, Virginia
www.daa.com

2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 (T) (540) 552-0291 (F)

Location Notes:

Project Name: 600 Garnet
Site Location: Lynchburg
DAA JN: 210460
Date: 5/20/21
Project PM/Coordinator: KW
Logged By: HSB

Field Point Name: B06
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: Auger Refusal (Y/N):

Description of Aquifer: B06-1 (14:00)
(B06-2 (14:10)
Depths: 2.5'-3.5'
Static Water Level + Date: -2.

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	2.5	St	M	orange	C	G	D	AS	18				clay fill
2	2.5	5	H	M	grey	C	Sa	M	AS	18				layer of white sand @ 5'; native clays
3	5	6	H	M	brown	C	Sa	M	AS	18				sandy clay
4	6	8	F	H	brown	C	Sa	M	AS	18				saturated @ 7'
5	8	10	F	H	brown	Sa	Ca	M	AS	18				sandy clay
6	10	15	So	H	light brown	Ca	Sa	M	AS	50				sandy clay
7														
8														
9														
10														
11														
12														
13														
14														
15														

PID: 2.5' = 267.5 ppm
5' = 34.5 ppm
7.5' = 71.3 ppm
10' = 38.5 ppm
12.5' = 31 ppm
15' = 27.7 ppm

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2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 (T) (540) 552-0291 (F)

Location Notes:

Project Name: 1000 Canal
Site Location: Lynchburg
DAA JN: 210146O
Date: 5/20/21
Project PM/Coordinator: KW
Logged By: HSB

Field Point Name: B07
Drilling Method: DP Drilling Contractor:
Auger/Rod Diameter (in): 2"
GS Elevation:
Depth Water Encountered:
Total Depth: Auger Refusal (Y/N): 10'

Description of Aquifer: sample time:
Depth:
Analysis:

Static Water Level + Date:

Sample #	Depth (Feet) From	Depth (Feet) To	Consistency/Density L=Loose So=Soft F=Firm St=Stiff H=Hard	Plasticity N=None L=Low M=Medium H=High	Color(s)	Major Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Minor Component G=Gravel Sa=Sand C=Clay Si=Silt O=Org	Water Content D=Dry M=Moist W=Wet	Sample Type C=Cuttings SS=Split Spoon ST=Shelby Tube RC=Rock Core	Recovery (Inches)	Other Information: PID (ppm)	Other Information: Sample to Lab (y/n)	Other Information: ASTM Classification Field Observed	Remarks (Angularity, Shape, Odor, Cementation, Structure, Other)
1	0	5	L	L	Brown	C	G	D	AS	12				native clays
2	5	7	L	M	Brown	C	G	M	AS	12				gravelly clay
3	7	8	L	N	white	Sa	G	D	AS	6				sand/gravel mix
4	8	10	H	L	brown	C	Sa	M	AS	12				tight native clays
5														
6														
7														
8													Sampled 2.5'	
9													All analysis	
10														
11														
12														
13														
14														
15			PID											

PID

2.5 38.1
5.0 32.7
7.5 47.8
10.0 21

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

Doc #378 Rev 1_03242017

CHAIN OF CUSTODY RECORD (AIR)

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name:	Draper Aden Associates
Address:	2206 S Main St Blacksburg VA
Phone:	(540) 552-0444
Project Name:	1800 Garnet
Project Location:	Lynchburg VA
Project Number:	2109460-01
Project Manager:	Karen Weber
Con-Test Quote Name/Number:	
Invoice Recipient:	kweber@daa.com
Sampled By:	Hollyn Busby & Karen Weber

Requested Turnaround Time
7-Day ☐ 10-Day ☒
Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: kweber@daa.com
Fax To #: hbusby@daa.com

ANALYSIS REQUESTED

Lab Use	Client Use	Collection Data		Duration	Flow Rate	Matrix	Volume	ANALYSIS REQUESTED				" Hg			Please fill out completely, sign, date and retain the yellow copy for your records	
Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	☐ m³/min ☐ L/min	Code	☐ Liters ☐ m³	VOCs by TO-15				Initial Pressure	Final Pressure	Lab Receipt Pressure	Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply	
	VS-1	5/20/2021 15:54	16:51	57		SG	SG	X				-28	-6		4444	4444
	VS-2	15:08	16:05	57		SG HB 5/24/21	SG	X				-28	-5		~~4449~~ 4449	~~4449~~ 4449 HB 6/24/21
															4449	4449

For summa canister and flow controller information please refer to Con-Test's Air Media Agreement

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:
SG = SOIL GAS
IA = INDOOR AIR
AMB = AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = Other_____

Relinquished by: (signature)	Date/Time: 5/24/2021 15:15
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ Other

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NELAC and AIHA-LAP, LLC Accredited

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☒ Brownfield ☐ MBTA

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

Table 1: Soil Sample IDs, Depths, Rationale, and Analysis						
Sample ID	**Sample Interval (inches bgs)**	**Rationale**	**VOCs** (5035A[1]/ 8260C[2])	**SVOCs/PAHs** (3546[1]/ 8270D[2])	**TM+CN** (3050B[1]/ 67471B[2])	**PCBs** (3546[1]/ 8082A[2])
B01	>6"	Borings placed along Garnet Street entrance to evaluate potential impacts near loading dock.	•	•	•	•
B02	>6"		•	•	•	•
B03	>6"	Boring placed along north wall to evaluate potential railroad impacts.	•	•	•	•
B04-1	~~0-6"~~ >6"		•	•	•	•
B05-1 (offset B04)	~~>6"~~ 0-6"	Boring placed to south of building to evaluate potential impact from former off-site petroleum ("oil") tanks.	•	•	•	•
B06-1	0-6"	Borings placed in southern strip to evaluate potential impact from former on-site buildings (e.g., including former boiler room and likely material storage near B06)			•	•
B06-2	>6"		•	•	•	•
B07	~~0-6"~~ 0-2'		•	•	•	•
B08-1	0-6"				•	•
Contingency Sample (one soil boring or hand augered sample collected at 0'-2' & 2'-15' bgs)			2	2	2	2
TOTAL W/O QC			**6**	**6**	**9**	**9**
Equipment Blank	Not required. Sampling equipment/containers will be new and/or supplied by lab.		0	0	0	0
Rinseate Blank			0	0	0	0
Field Duplicate	Blind field duplicate. 1/20 soil samples		1	1	1	1
Trip Blank	One per day as approved in the QAPP. VOCs will be consolidated into one cooler for shipment.		1	0	0	0
QA/QC (MS)	1 per batch of 20 soil samples		1	1	1	1
QA/QC (MSD)	1 per batch of 20 soil samples		1	1	1	1
TOTAL			**10**	**10**	**12**	**12**

[1]Sample preparation/extraction method number.

[2]Analytical method number.

Garnet Phase II ESA - 5/11/21

Kickoff meeting w/ Candy & Karen

fittings - off brand fitting → keep fittings "snug" (gentle)

get from - swagelock - raleigh - shipping
order entire nut + ferrel set (stainless) → pressure fittings

put together vapor toolbox
extra ferrels, nuts
↳ compression fitting (single use)

potters clay - mineral kaolanite - stiff
hydrated bentonite could work

5 lbs weight plate; put box down on seal
put inside box, tubing goes through hole

0.25 inch O.D. tubing - teflon
need silicon for outside helium
*Don't get industrial grade UHP | airgas account
↳ call week or 2 ahead of date

$80/day - Helium detector - EEI services - Justin
Cheaper than dialectic $200/day

check guidance - Rule < 2% Helium check
readings not super stable
measured in ppm or ppt

*Add helium to TO-15 analysis

contest - part of Pace - Adam - ~~Cathy Dover~~ Carrie McGee
Todd Kopensky
↳ talks through things
Blaine Hartman

3 Liter summa canisters
↑indoor air
↓exterior soil gas

Eurofins
Airtoxics
1 Liter doesn't always meet criteria for low limits

Discussion

* off-gassing from carpet, glues, etc.
order canisters week ahead of time open and close
controller indicates if vacuum is where it needs to be
-25 mg: brass cap: put on flow controller w/ brass cap on flow controller

Individually certified if regulation requires

Two 9/16" sockets
tubing cutters for better fit
open end wrench or good pliers to tight flow controller

ATTACHMENT 5

Chain-of-Custody Documentation

CHAIN OF CUSTODY RECORD

Laboratory: **Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barbara Weyandt, Manager/ (717) 656-2300**

Client:	City of Lynchburg EDA	**Consultant:**	Draper Aden Associates	1800 Garnet Warehouse	Project Specific (PS) or Batch (B) QC: B
Attn:	Ms. Marjette Upshur, Director	**Attn:**	Karen Weber	1800 Garnet St	Sample Collection for Project Complete? YES
Address:	900 Church Street	**Address:**	2206 South Main Street	Lynchburg, Virginia	
	Lynchburg, Virginia		Blacksburg, Virginia 24060	Phase II ESA	
Phone:	(434) 455-4492	**Phone:**	(540) 557-0444	2109460 / Phase 01	Carrier:
Fax:	0	**Fax:**	(540) 552-0291		Tracking Number:

Box 1: Matrix
SW Surface Water; GW Groundwater; L Leachate; S Soil; T Trip Blank; E Equipment Blank; P Product; O Other

Box 2: Preservative
A HCl; B HNO_3; C H_2SO_4; D $Na_2S_2O_3$; E NaOH; F ZnAc; G Other (Specify); H None

V VOA; CG Clear Glass

Box 4: Sample Type
G Grab; C Composite

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER _____
Preserved and shipped on ice: YES

Box 4 - Sample Type					G				G				C		
Box 3 - Filtered/Unfiltered															
Required pH of Sample															
Box 2 - Preservative					G	DI H2O	H		H				H		A
Box 5 - Sample Container Type					1-40mL V	3-40mL V	1-40mL V		1-8 oz CG				1-2 oz CG		1-40mL V
Sample ID	**Date: 2021**	**Time**	**Box 1: Matrix**	**Number of Bottles**	**VOAs 5035/8060D w/ methanol**	**VOAs 5035/8060D w/ DI Water**	**VOAs 5035A/8260D FOR LAB SCREENING PURPOSES**		**Dry Weight (Moisture)**	**9012B - Cyanide (see attached analyte list)**	**3050B / 6020B/7471B - Total Metals (See attached analyte list)**	**3546 / 8270D Semivolatiles including LLPAHs (See attatached analyte List)**	**3546 microwave / 8082A TAL PCBs**	**3546 microwave / 8082A TAL PCBs**	**SW-846 / 1311 TCLP (Full)**	**VOAs 8260D 25ml purge**
B09-1			S	1					X	X	X	X	X				SOIL SAMPLING INTERVAL = surface 0-6"
B10-1			S	1					X	X	X	X	X				SOIL SAMPLING INTERVAL = surface 0-6"
B11-1			S	1					X	X	X	X	X				SOIL SAMPLING INTERVAL = surface 0-6"
B12-1			S	1					X	X	X	X	X				SOIL SAMPLING INTERVAL = surface 0-6"
Trip Blank																	

GENERAL NOTES:
1. Level 2 report results only. Include estimated data and QC summary.
2. Report DL/QL and estimated results.
3. VELAP Accreditation required.
4. Report results in mg/kg.
5. Report on a dry weight basis.
6. Brownfields Pricing.

Clients Special Instructions:

Received by lab in Good Condition _____ Yes _____ No Custody Seal Intact _____ Yes _____ No Temperature upon arrival _____ Received on Ice _____ Yes _____ No
Describe problems, if any:

Sampler Name (Print):	Date:	#1 Relinquished by (Signature):	Date:	Date:	Sample Storage
Sampler Signature:	Time:	Company Name:	Time:	Time:	Time Requested:
Sampler Name (Print):	Date:	#1 Received by (Signature):	Date:	Date:	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time:	Company Name:	Time:	Time:	

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Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

http://www.contestlabs.com

Doc #378 Rev 1_03242017

CHAIN OF CUSTODY RECORD (AIR)

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name:	Draper Aden Associates
Address:	2206 S Main St Blacksburg VA
Phone:	(540) 552-0444
Project Name:	1800 Garnet
Project Location:	Lynchburg VA
Project Number:	2109460-01
Project Manager:	Karen Weber
Con-Test Quote Name/Number:	
Invoice Recipient:	kweber@daa.com
Sampled By:	Hollyn Busby & Karen Weber

Requested Turnaround Time
7-Day ☐ 10-Day ☒
Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: kweber@daa.com
Fax To #: hbusby@daa.com

ANALYSIS REQUESTED

Lab Use	Client Use	Collection Data		Duration	Flow Rate	Matrix	Volume	ANALYSIS REQUESTED				" Hg			Please fill out completely, sign, date and retain the yellow copy for your records	
Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	☐ m³/min ☐ L/min	Code	☐ Liters ☐ m³	VOCs by TO-15				Initial Pressure	Final Pressure	Lab Receipt Pressure	Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply	
	VS-1	5/20/2021 15:54	16:51	57		SG	SG	X				-28	-6		4444	4444
	VS-2	15:08	16:05	57		SG HB 5/24/21	SG	X				-28	-5		~~4449~~ 4449	~~4449~~ 4449 HB 6/24/21
															4449	4449

For summa canister and flow controller information please refer to Con-Test's Air Media Agreement

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:
SG = SOIL GAS
IA = INDOOR AIR
AMB = AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = Other_____

Relinquished by: (signature)	Date/Time: 5/24/2021 15:15
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ Other

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NELAC and AIHA-LAP, LLC Accredited

Project Entity
☐ Government ☐ Municipality ☐ MWRA ☐ WRTA
☐ Federal ☐ 21 J ☐ School
☐ City ☒ Brownfield ☐ MBTA

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

CHAIN OF CUSTODY RECORD

Laboratory: **Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barbara Weyandt, Manager/ (717) 656-2300**

Client:	City of Lynchburg EDA	**Consultant:**	Draper Aden Associates	**1800 Garnet Warehouse**	**Project Specific (PS) or Batch (B) QC:** *B*
Attn:	Ms. Marjette Upshur, Director	**Attn:**	Karen Weber	**1800 Garnet St**	**Sample Collection for Project Complete?** *YES*
Address:	900 Church Street	**Address:**	2206 South Main Street	**Lynchburg, Virginia**	
	Lynchburg, Virginia		Blacksburg, Virginia 24060	**Phase II ESA**	
Phone:	(434) 455-4492	**Phone:**	(540) 557-0444	**2109460 / Phase 01**	**Carrier:**
Fax:	0	**Fax:**	(540) 552-0291		**Tracking Number:**

Box 1: Matrix
SW Surface Water; GW Groundwater; L Leachate; S Soil; T Trip Blank; E Equipment Blank; P Product; O Other

Box 2: Preservative
A HCl; B HNO_3; C H_2SO_4; D $Na_2S_2O_3$; E NaOH; F ZnAc; G Other (Specify); H None

V VOA; CG Clear Glass

Box 4: Sample Type
G Grab; C Composite

Invoice
Copy to Consultant: *YES*
Bill: *CLIENT* *OTHER* _____
Preserved and shipped on ice: *YES*

Box 4 - Sample Type					G				G					C		
Box 3 - Filtered/Unfiltered																
Required pH of Sample																
Box 2 - Preservative					G	DI H2O	H		H					H		A
Box 5 - Sample Container Type					1-40mL V	3-40mL V	1-40mL V		1-8 oz CG					1-2 oz CG		1-40mL V
Sample ID	**Date: 2021**	**Time**	**Box 1: Matrix**	**Number of Bottles**	**VOAs 5035/8060D w/ methanol**	**VOAs 5035/8060D w/ DI Water**	**VOAs 5035A/8260D FOR LAB SCREENING PURPOSES**		**Dry Weight (Moisture)**	**9012B - Cyanide (see attached analyte list)**	**3050B / 6020B/7471B - Total Metals (See attached analyte list)**	**3546 / 8270D Semivolatiles including LLPAHs (See attatched analyte List)**	**3546 microwave / 8082A TAL PCBs**	**3546 microwave / 8082A TAL PCBs**	**SW-846 / 1311 TCLP (Full)**	**VOAs 8260D 25ml purge**
B09-1			S	1					X	X	X	X	X			
B10-1			S	1					X	X	X	X	X			
B11-1			S	1					X	X	X	X	X			
B12-1			S	1					X	X	X	X	X			
Trip Blank																

GENERAL NOTES:
1. Level 2 report results only. Include estimated data and QC summary.
2. Report DL/QL and estimated results.
3. VELAP Accreditation required.
4. Report results in mg/kg.
5. Report on a dry weight basis.
6. Brownfields Pricing.

Clients Special Instructions:

Received by lab in Good Condition _____ Yes _____ No Custody Seal Intact _____ Yes _____ No Temperature upon arrival _____ Received on Ice _____ Yes _____ No

Describe problems, if any:

Sampler Name (Print):	Date:	#1 Relinquished by (Signature):	Date:	Date:	Sample Storage Time Requested:
Sampler Signature:	Time:	Company Name:	Time:	Time:	
Sampler Name (Print):	Date:	#1 Received by (Signature):	Date:	Date:	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time:	Company Name:	Time:	Time:	

ATTACHMENT 6

Laboratory Reports